1992

Corridor Study-Route 32 West Street and Palmer Road

UMass Amherst Center Economic Development

CORRIDOR STUDY - ROUTE 32
WEST STREET AND PALMER ROAD

WARE, MASSACHUSETTS

SPRING, 1992

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Acknowledgements

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Also, we are indebted to Professor Meir Gross and Jeanne Armstrong, both studio group coordinators for the Department of Landscape Architecture and Regional Planning at the University of Massachusetts, for their guidance and understanding of corridor planning.

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Previous Department studio team members also provided insight in corridor planning. We would like to thank Mike Brown and Darrin Harris for their preliminary work on this study. We would also like to thank Chris Skelly, Virginia Dodson, Chris Kemp and Karen Dodge for background use of the Route 116 study for South Hadley, Mass., which was completed in late 1991.

I. Executive Summary

The three-mile expanse of Route 32, between Ware Center and the Palmer town line, is vital to the development of the Town of Ware. The corridor is home to many of the Town's service establishments, including a supermarket, drug store, post office, etc. Also, it is the key highway link between Ware and the Massachusetts Turnpike. Given these two purposes, Route 32 is high on the scale of importance of roads in Ware.

There are four main issues or concerns associated with the performance of Route 32: adequacy of water and sewer infrastructure; increased traffic; future growth; and the economic impact due to future expansion on Route 32 . How well planning on Route 32 deals with these issues will determine how well Route 32 continues to serve its dual purpose.

With regard to infrastructure, the corridor is served by Town water for all three miles and Town sewer from Town Hall to Ware High School. Based on data collected and personal interviews, current sewer service is acceptable. Although some businesses south of the high school expressed interest in extension of the line, there is no groundswell of support for such an investment at this time. However, if more intense development were to occur past the high school, an extension may be warranted.

The water issue concerns the Town in general. With the system operating above, at or near capacity during some times of the year, any new development will strain the current system. This is crucial to analysis of Route 32, one of the popular development areas of Ware.

Likewise, many regard traffic as a critical concern. The traffic flow at the northern end of the corridor - the intersection with Route 9 - is both inefficient and potentially dangerous. There is also concern about left turn movements and pedestrian traffic.

The impact of proposed developments could prove detrimental to the long-range viability of the corridor. With water service and traffic levels at or near capacity, unplanned development will cause a breakdown of the current system. This, in turn, will cause a breakdown in the key functions of Route 32: commercial base and connection to the Turnpike. Also, the residential portion of the corridor would be unduly harmed by rampant development.

Route 32 will remain viable with proper development planning. This report recommends the extensive use of site plan approval and special permit requirements in order to manage growth effectively. Also recommended are inexpensive methods of improved management for Route 32, such as the repainting of traffic lines and gathering needed information about water delivery. There is sufficient room for growth along Route 32. Proper development will not impair access to Ware's service-oriented business or to the Massachusetts Turnpike. Improper, or rampant, development will.

II. Introduction

The Ware Community Development Department has asked the Center for Economic Development to help analyze the current and future uses along Route 32, and the impact of those uses in terms of fiscal and infrastructure impacts to the town. This three-mile stretch extends from the center of town southwest to the Palmer town line. The purpose of this study is to help the Town of Ware determine the best way to guide growth along this corridor so that the least impacts are felt on town services.

Route 32 is the main connection between Ware, Brimfield and other points north and the Massachusetts Turnpike exit in Palmer. From Town Hall to the High School, Route 32 is known as West Street. From the High School to the Palmer line, it is referred to as Palmer Road. Currently, the corridor consists of commercial, residential and industrial uses. Near the center of Ware are the heaviest commercial activities, while single-family homes dominate the lower end of the corridor.

The Center has also examined three key sites on Route 32 in terms of existing uses of the land and potential uses in the future. Under these categories, the fiscal, infrastructure and traffic impacts are discussed. Assessors data was collected and used to assess fiscal impacts, and traffic counts were taken to assess future traffic impacts of development. Also, the needs of business uses without town sewer connections were assessed by means of a survey conducted of those businesses currently not on the sewer line.

III. Current Conditions on Route 32

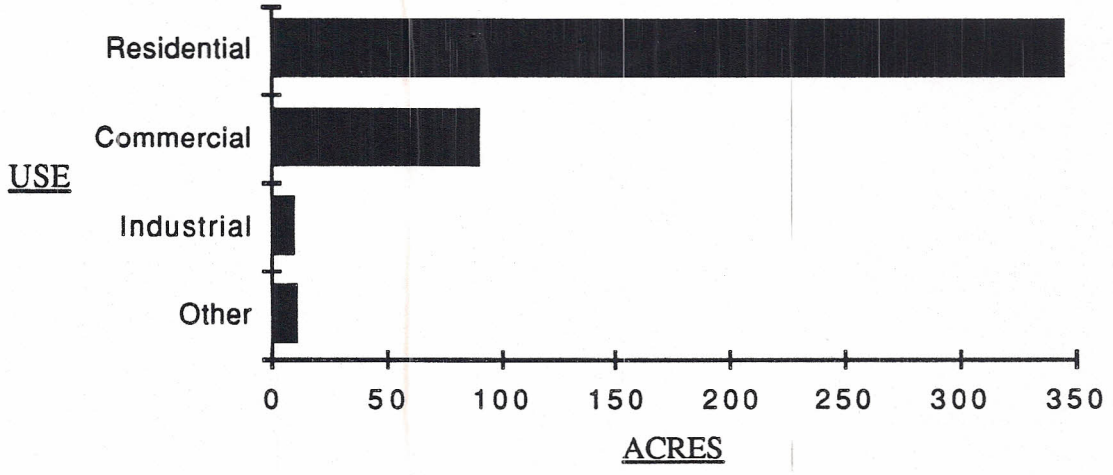
A. Development of the Land

Route 32 is home to a mixture of land uses (See Map 1). The most intense retail and commercial uses are located in the West Street area, from Town Hall to the Post Office. In recent years more commercial activity has been proposed and developed. The CVS plaza is a set of small stores in the heart of West Street. There has also been a proposal for a supermarket on the vacant parcel across from Vernon Street.

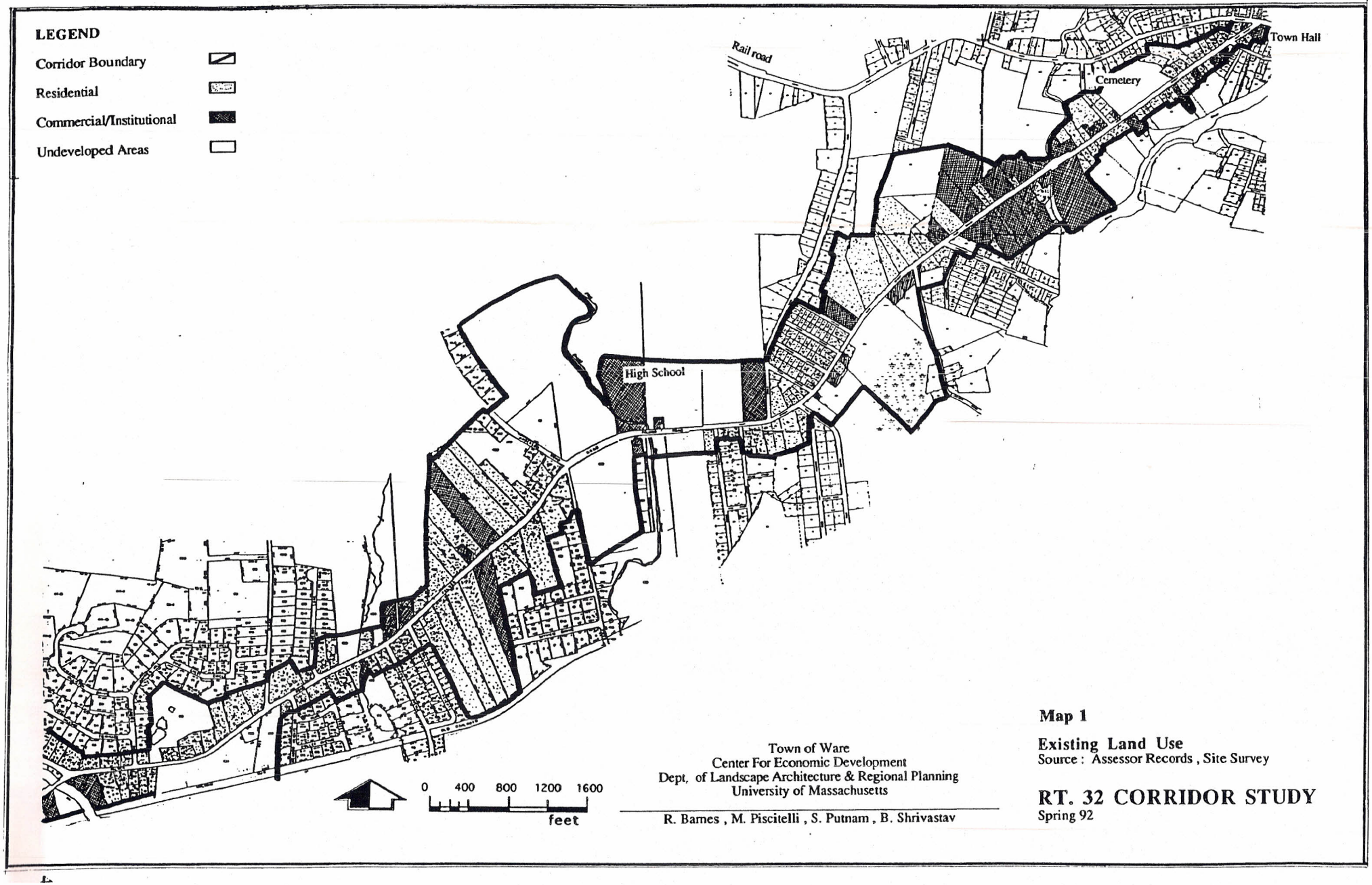
Further along the corridor, the land use is primarily for single-family homes. There are a few industrial establishments as well, including Profiles, Inc., a wire manufacturer, and the Quality Milk Company. The former Silk Screen Service building lies vacant along this stretch of the corridor. Two institutional establishments on the corridor are St. William's cemetery, located near the corner of Vernon and West, and the local VFW

Figure 1 illustrates the current distribution of land uses on Route 32.

Figure 1: Current Land Uses of Route 3



As Figure 1 indicates, residential areas account for the largest percentage of land on the corridor (75.4%). Commercial is a distant second (19.7%).



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Map 1

Existing Land Use
Source : Assessor Records , Site Survey

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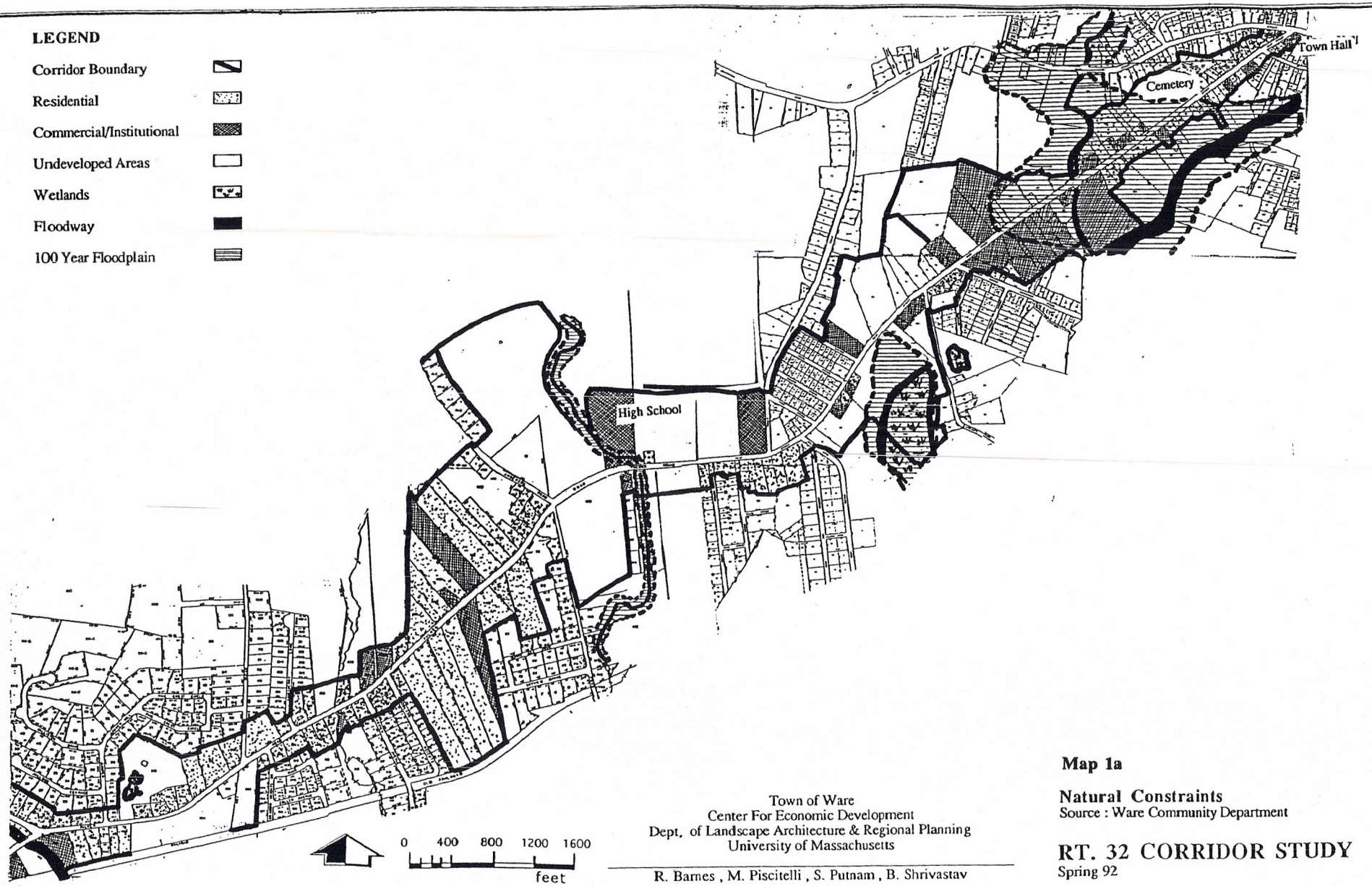

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Map 1a

Natural Constraints
Source : Ware Community Department

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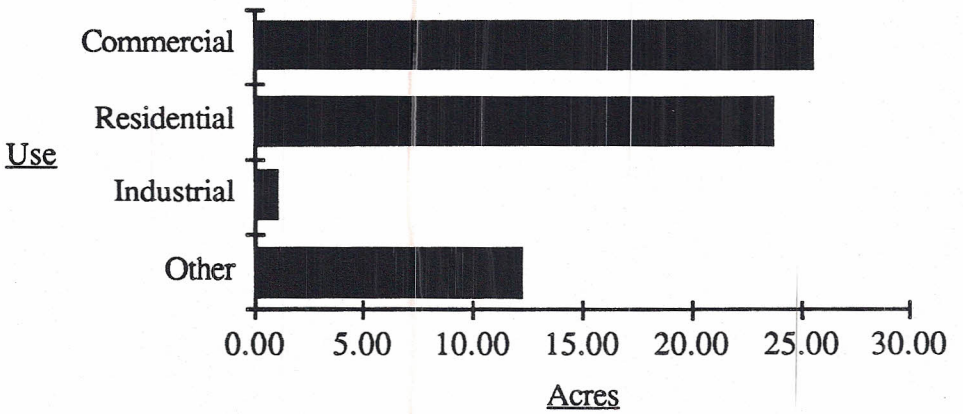
These numbers change considerably, however, when isolating the first mile from the balance of the corridor. Along this stretch, commercial uses, at 40.7%, outpace residential uses at 37.8%. Moreover, commercial structures are more than double the square footage of residential buildings. A good portion of the commercial activity is in the large-scale Super Big Y Plaza, which includes a supermarket and discount store. The breakdown of the first mile land use is given in Figure 2.

Figure 2: First Mile Land Uses



All told, the first mile accounts for just 13.7% of the land area on the corridor. At the same time, over half of the tax dollars generated on the corridor (56.4%) are collected from first mile properties. The intensity of use in the first mile is evident in all areas covered in this report. Aside from the disproportionate tax value, the first mile also carries a significant amount of traffic and utilizes much of the water and sewer used by the entire corridor.

B. Zoning

There are two primary zoning districts on Route 32 as shown on Map 2: HC (Highway Commercial) and RB1 (Residential Business). Aside from the exceptions mentioned below, both districts have good mechanisms in place to manage growth along the corridor.

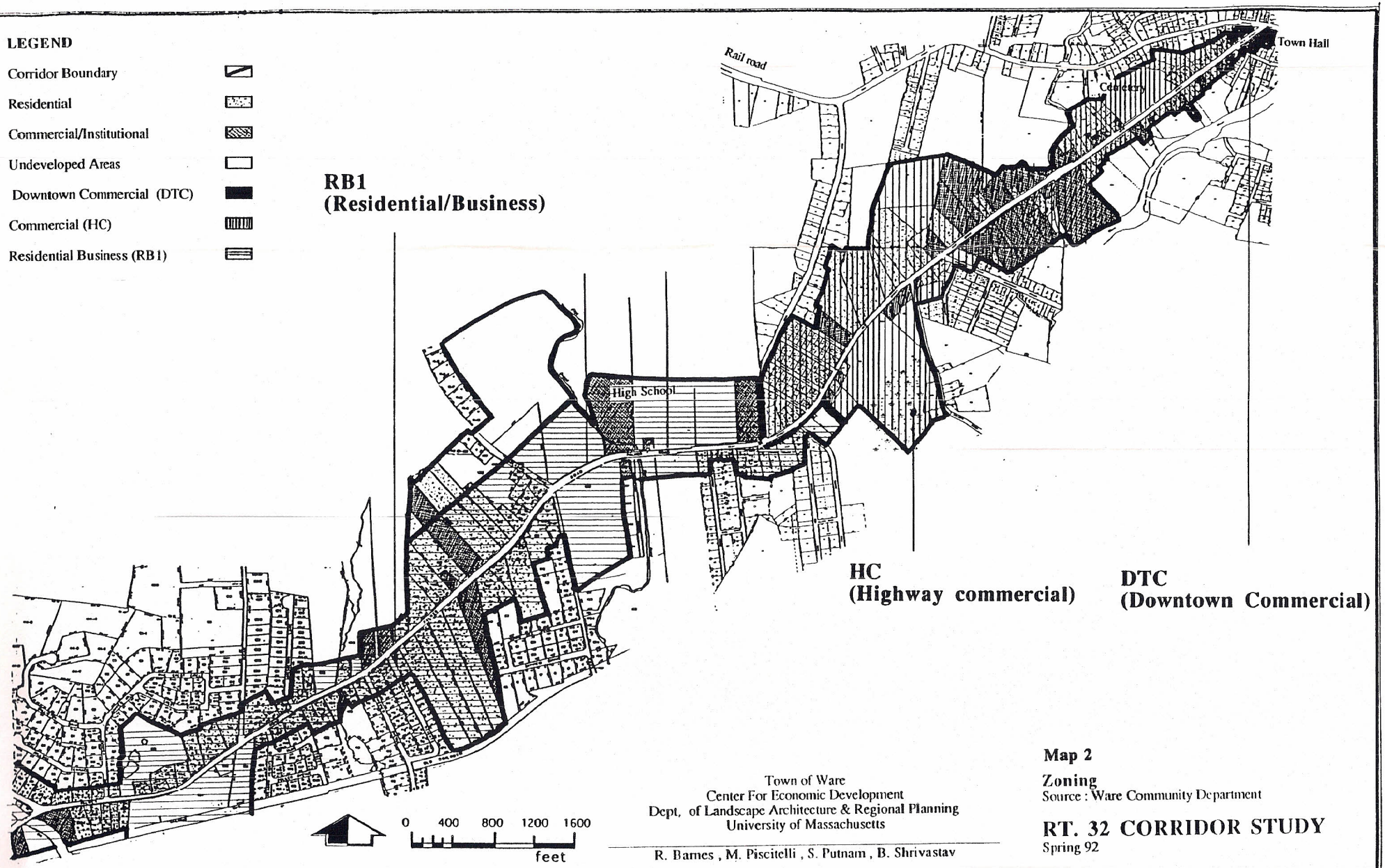
Possible Loopholes

There are three uses of concern in the Highway Commercial district: Retail, Banks and Services. With no Site Plan Approval (SPA) or Special Permit (SP) requirement, any development which meets building standards may proceed unchecked. Also, the Residential Business District allows single-family residential development without a Site Plan Approval or Special Permit approval.

These four uses are highlighted for the potentially large impact each could have upon town services. According to the bylaws, the purpose of Ware's Site Plan Approval requirement is to "[facilitate] traffic channelization and control, assuring adequate drainage of surface water, protecting the environment, property values, abutting properties, etc..."

The HC district uses mentioned above could create further traffic difficulties in this area without coordination. For example, current zoning allows for a retail developer to design access driveways to the store without consideration of the traffic flow on West Street. Site Plan Approval would enable Ware to plan ahead for increases in traffic and also to work to minimize disruptions in the flow of traffic .

A complete list of use regulations is provided in Appendix B.



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Map 2

Zoning
Source : Ware Community Department

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C. Financial Assessment

Assessed values of structures and land on Route 32 generate over $340,000 for the Town's annual tax roll. By use, this is broken down in Figure 3:

Figure 3: Property Tax Revenue of Route 32 Properties by Use:

Residential	$175,526.51
Commercial	$148,350.55
Industrial	$11,606.72
Total	$335,483.78*

* The Ware Housing Authority contributes a payment in lieu of taxes for its West Street properties, thus bringing the total to the Town above $340,000.

This figure represents approximately 7% of Ware $4.7 million tax roll.

By comparison, first mile properties are assessed $225, 875 in property taxes. This number is over 56% of the total assessed valuation for the corridor.

D. Traffic Analysis

Traffic on Route 32 is a critical concern. The traffic flow along West Street slows considerably during peak times, such as the afternoon rush hour and the Saturday morning "shopping hours". The Center conducted traffic counts at two points in order to assess traffic on the corridor. Traffic counts from a recent Environmental Notification Form are also provided. The three points, with the time of the counts, are given in Figure 4:

Figure 4: Time and Place of Traffic Counts:

Vernon and West	Thurs. evening, 4/23/92
West at Ware Country Bank	Sat. morning. 4/25/92
Anderson and Palmer	Mon. 3/9/92; Sat. morning 4/25/92[1]

In late 1985, the Pioneer Valley Planning Commission (PVPC), at Ware's request, studied the potential impact of a proposed supermarket in the vacant parcel across from Vernon Street. The 1985 report covered traffic flow at the corner of Vernon and West. In 1985, PVPC estimated a flow of 14,800 vehicles per day on West Street and 3,000 vehicles per day on Vernon St.[2] The Center's 1992 count for the same weekday time period was 1,950 vehicles. See Figure 5a.

Also, the Center has followed up on that report to see how the traffic flow has changed over the past seven years. In that time, two major developments have occurred on West Street: the CVS plaza and the Post Office.

Traffic counts for West Street at the entrances of the Super Big Y plaza and Country Savings Bank of Ware are also high for the current traffic system. See Figure 5b. Without traffic signals, this section presents many difficulties to drivers heading to one or more of the service establishments. It was observed that drivers had to wait for extended amounts of time in order to successfully turn South out of the Super Big Y plaza and to turn North out of the Country Bank.

Both the supermarket and the bank are major traffic generators. Often, a car will not attempt a cross directly, although this is possible, due to the heavy traffic flow and the third "passing" lane on West Street. Instead, drivers pull out of one exit; turn right on West Street; then left to the other side.

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[1]This count was done by the developer for the parcel and appears on the Environmental Notification Form, Vanasse & Assoc., 1992. References to an Environmental Notification Form in this study refer to this particular document.
[2]*Traffic Impact Analysis: West and Vernon Streets, Ware.* West Springfield: Pioneer Valley Planning Commission, 1985.

This area is the most southern point of high traffic generation along Route 32. Out of the supermarket plaza, 87% of the cars turned right, back toward the center of town.

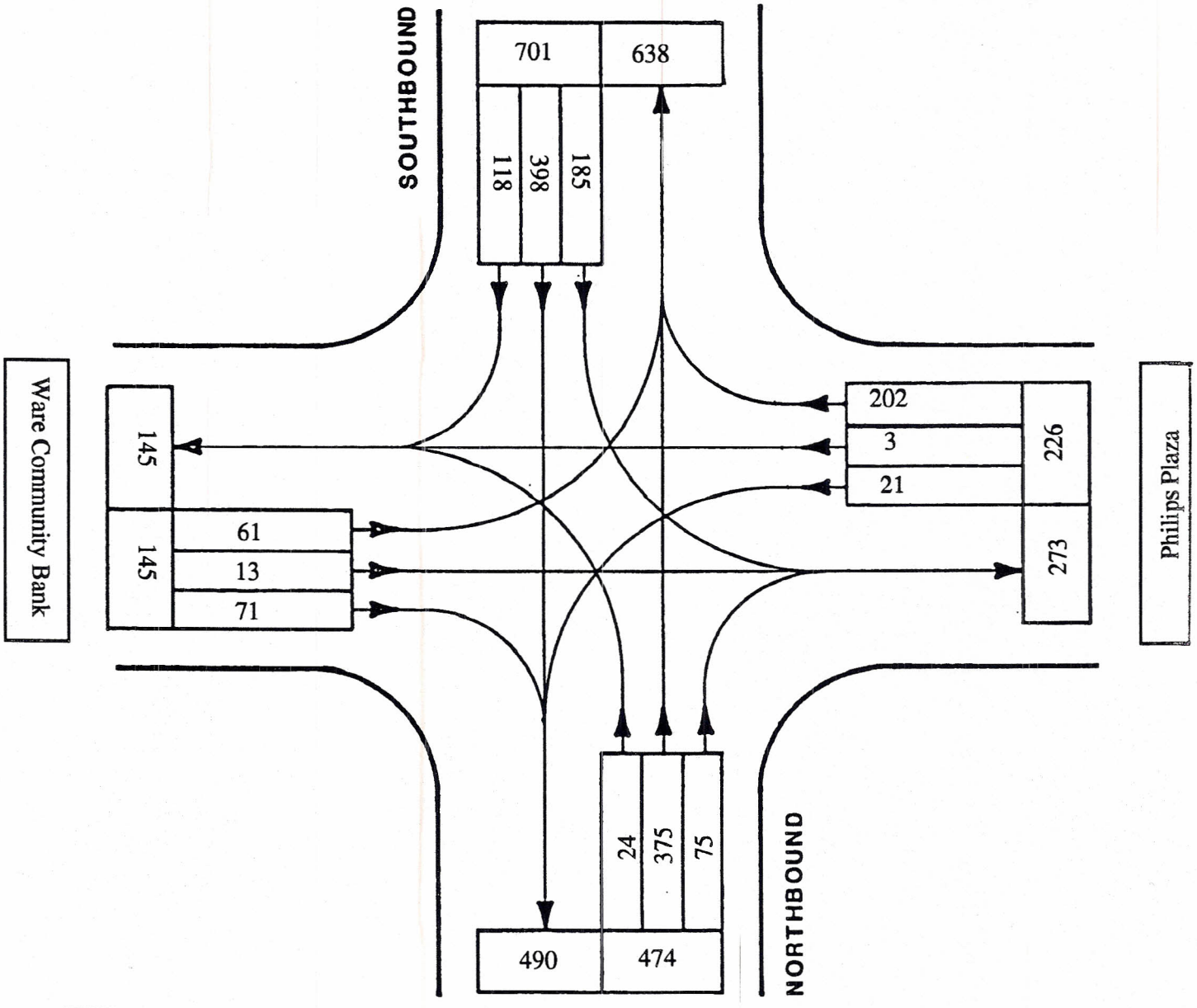
Farther down the corridor, traffic moves more smoothly. Figure 5c illustrates the third count, taken at the corner of Anderson and Palmer Roads. It indicates a smooth traffic flow in all directions. Under present conditions, few problems emerge form the slightly off-center intersection of Anderson, Palmer and Malboeuf Roads.

Intersection Turning Movement Count

Figure 5b:

City/Town Ware **Date** 4/25/92

Intersection West St. (Rt.32) and Philips Plaza



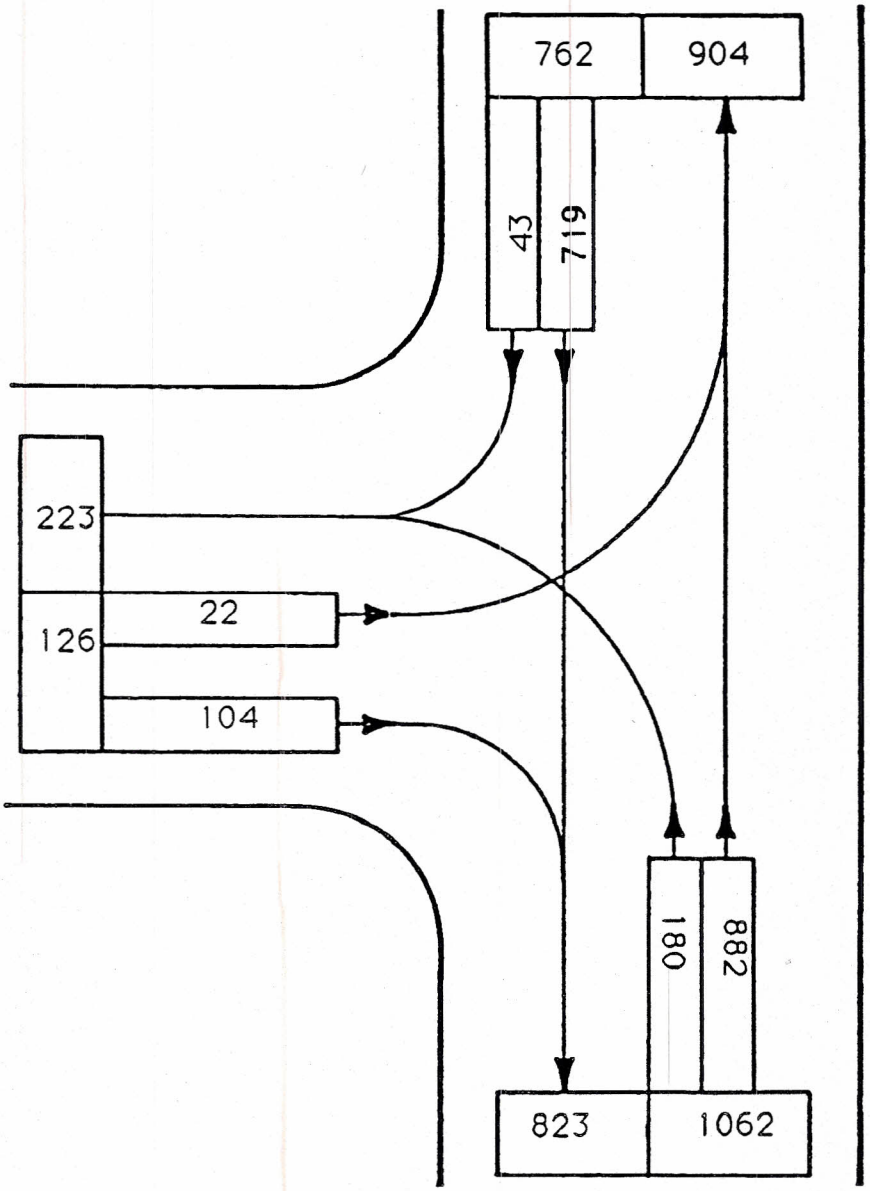
STREET	ENTERING VOLUME	PERCENT of FLOW	TIME of COUNT
West St. (NB)	474	31	Sat. Peak Hour (AM)
West St. (SB)	701	45	
W. C. Bank (Exit)	145	9	
Philip Plaza (Exit)	226	15	Town of Ware Center for Economic developmer
Total	1546		

Intersection Turning Movement Count

Figure 5a:

City/Town Ware Date 4/23/92

Intersection West Street (Rt. 32) and Vernon Street



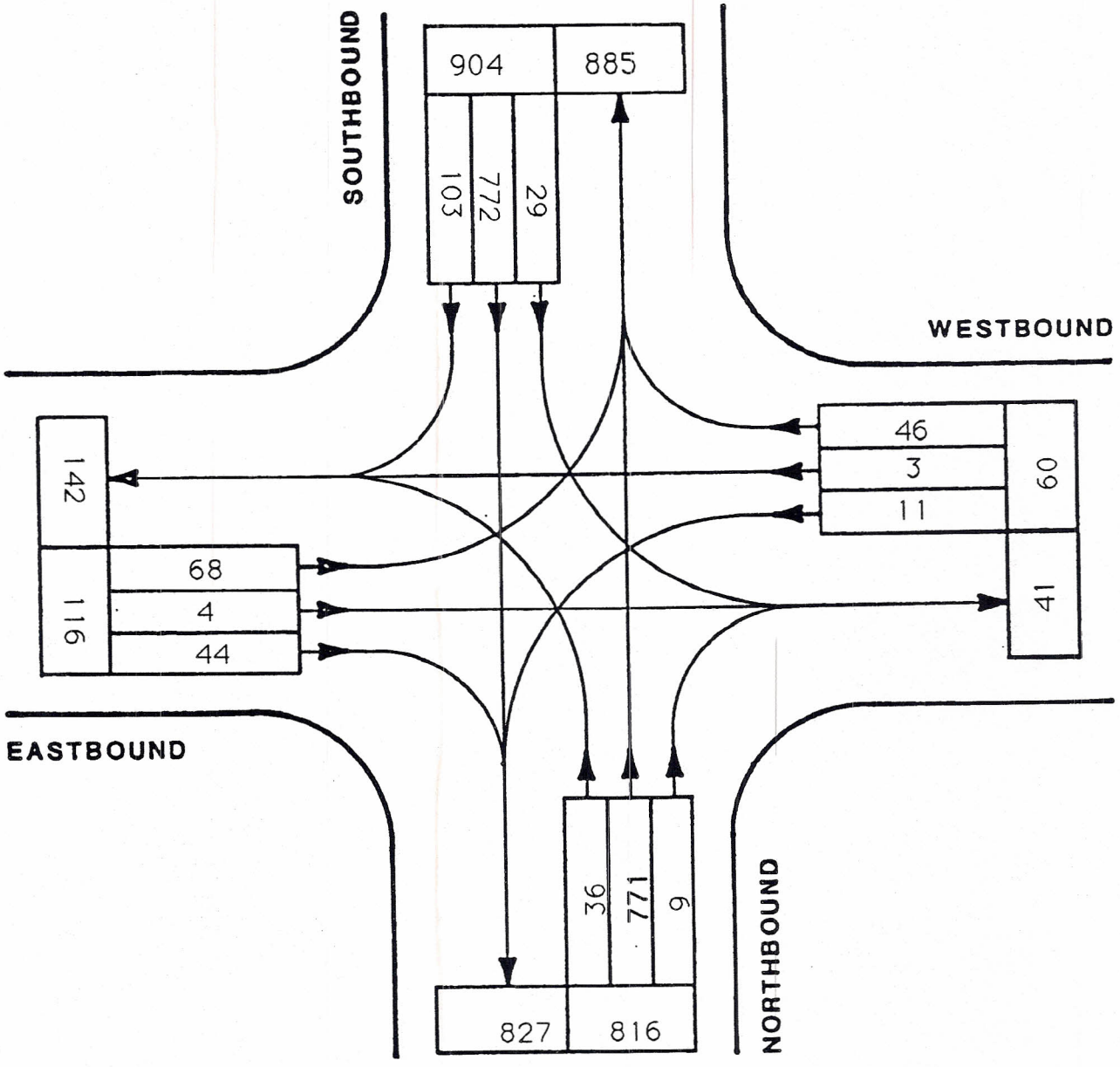
STREET	ENTERING VOLUME	PERCENT of FLOW	TIME of COUNT
Vernon St. EB	126	6.5	Weekday Peak Hour (PM)
West St. NB	1062	54.5	
West St. SB	762	39	Town of Ware Center of Economic Development
Total	1950		

Intersection Turning Movement Count

Figure 5c:

City/town Ware **Date** 4/25/92

Intersection West St. (Rt. 32) and Anderson Road



STREET	ENTERING VOLUME	PERCENT of FLOW	TIME of COUNT
West St. (NB)	816	43	Sat. Peak Hour (AM)
West St. (SB)	904	47.5	
Anderson Rd.	116	6	Town of Ware Center for Economic Development
Malbouef Rd.	60	3.5	
Total	1896		

E. Infrastructure Analysis

The water and sewer capacities and current uses are the key elements of the infrastructure analysis. Both help determine the viability of current developments and future uses of the corridor. Map 3 illustrates the extent of water and sewer service on the corridor.

Water System

Town-wide, water is a critical issue. At the present time the water system pumps approximately one million gallons per day (gpd). This is about 240,000 gallons below absolute capacity. In the summer months, water use rises to levels at or above capacity.[3]

Two parallel water mains run below Route 32 (6" and 12").[4] The 12" line runs as far as the intersection with Anderson and Malboeuf. The 6" line spans the entire corridor.

There is no loop system to connect the smaller line with the rest of the town's system. The age and size of the pipe pose a serious constraint to development beyond Anderson Road. Although the smaller line appears to be adequate for present uses, the difficulty in obtaining fire insurance would be a roadblock to large-scale development.[5] According to Huntley Associates, neither the Department of Environmental Management nor the fire insurers regard a 6" pipe as adequate fire protection.

At this time, there are no reliable estimates of the amount of water used by Route 32 properties. Huntley suggests the use of monitors in order to assess present use.

Sewer System

A town sewer line (8") runs from Town Hall to the High School. The balance of the corridor remains on private septic system service. One office building, located slightly southeast of the High School is served by town sewer via a separate hookup.

The town's sewer system can handle five million gallons per day at capacity. Current use is between .7 and .8 million per day. Given the size of the main, at minimum slope, Huntley estimates the West Street line's capacity to be 1/2 million gallons per day. No figures are available as to the excess capacity of this line .

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[3]Interview with Dave Fox, Ware Department of Public Works. April 15, 1992.
[4]Sizes of water and sewer mains, courtesy Ware Department of Public Works. Also see *Ware Growth Management Report*. Hadley: LandUse, Inc., 1987.
[5]Interviews with various associates of Almer Huntley, Jr. & Associates, Inc. 5-1-92.

During the past decade several ideas have been proposed in order to extend town sewer along Palmer Road. One solution is to install a pumping station to bring Palmer Road sewage up to the current line. Another relies on "off-peak" pumping. This system would have larger users store their waste in large holding tanks during the day and then pump it into the system during the late night hours. Neither solution is considered realistic at this time due to the costs involved.

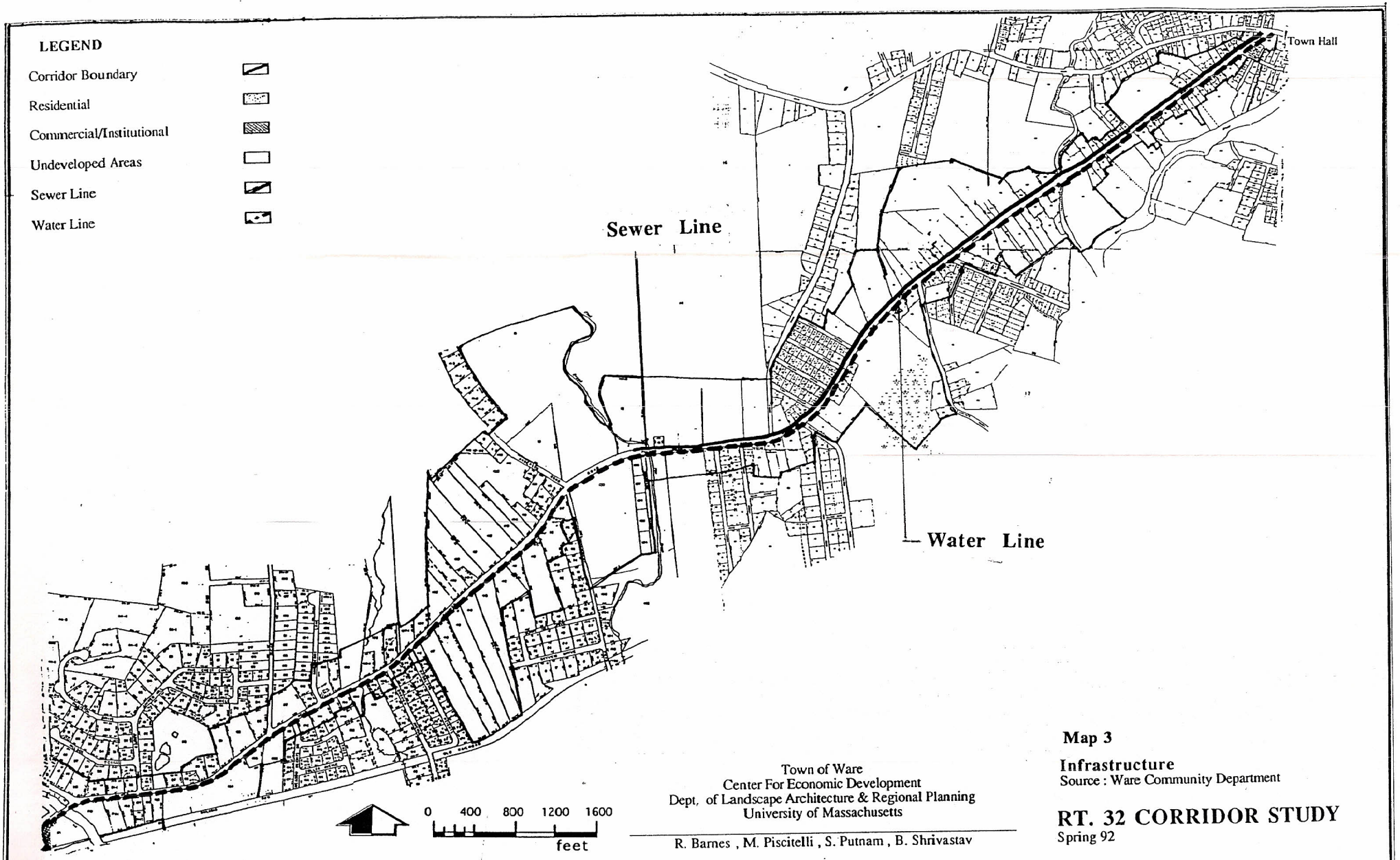
The most feasible solution, according to Huntley, is to connect the current system to a new line down Malboeuf Road, then following the railroad way north to the treatment plant. Plans have been drawn already to create this system.

Figure 6 outlines the proposed solutions along with Huntley's comments:

Figure 6: Possible Ways to Extend Sewer Line

Solution:	Comments by Almer Huntley:
Pumping Station up to Present Line	Could overflow current system
"Off-peak pumping"	Possible odors, complaints
New or extended line	Excessive Cost

Another way to reduce the costs involved with extending the sewer line would be through the creation of a "Betterment District" which achieves payment through assessments of the landowners served by the extension. To examine such an approach, the Center conducted a survey of the needs of businesses located on Route 32 who are not currently on the sewer system. Results are reported in Section III. F.



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Map 3

Infrastructure
Source : Ware Community Department

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F. Town Sewer Needs of Non-Served Businesses

Basis of Survey

This section is a prelude to a feasibility study on extension of the town sewer line on Palmer Road. In order to assess demand for the extension, business leaders were asked to comment on their current sewage disposal needs; their cost of sewage service; their desire to be on town sewer; and their willingness to participate in a special funding district to pay for the line.

The town sewer line runs along Route 32 from the intersection with Route 9 southwest to Ware High School. Aside from one office building, no parcels south of the high school are currently served by the town sewer line. Town water, however, spans the length of the corridor.

There are seven major businesses (Figure 7) and 53 residences along Palmer Road not served by town sewer. It is estimated that total private pumping costs for septic systems at all these sites is $9,301 per year. This is based on 1991 pumping costs provided by businesses plus estimates of residential costs (Figure 8).

Figure 7: Major Businesses Along Palmer Rd. Not On Town Sewer:

Name:	Description:	Employees:
Ken's Auto Repair	Car repair	1
Grout Trucking	Trucking	2
Orzeck Corp.	Plush animals	5
Petrolane	Propane service	7
Profiles, Inc.	Steel shapes, wire	35
Quality Milk	Dairy	13
Theresa's Restaurant	Italian food	12

Results

Based on interviews with leaders of these establishments, there is no overriding, urgent demand for town sewer extension. Many of the businesses, however, would like to see the line extended. At one time, Profiles had made an informal offer of $100,000 to the town in order to extend the line. The owner is doubtful whether he would repeat his offer. At present, Profiles makes between two and three trips per week to the Ware Treatment Plant to dispose of waste unsuitable for on-site disposal. In 1991 the costs of the disposal were $5,162. There are three major reasons as to why Profiles has changed its position:

- The company has invested in a hauling truck to handle the waste.
- Consistent monitoring of the waste on site would be more expensive than monitoring at the treatment plant.
- A change of ownership process is underway at Profiles.

Although some convenience would be gained by the sewer line extension, the company sees little net gain.

Other companies have expressed some support but for varying reasons. For the most part, none of the businesses generates enough waste for septic pumping costs to be prohibitive to business operation.

The Quality Milk Company favors a sewer line extension more for convenience than cost. The company is the second largest employer in the Palmer Road area. Currently, they are using two waste systems, one for personnel use and another to dispose of dairy waste. The cost for the personnel system is around $300 for one pump each year. Dairy waste is deposited directly into the ground at marginal cost.

Orzeck expressed interest in the sewer line extension in light of septic problems last year. The company spends approximately $400 per year in pumping costs. Orzeck would also be willing to participate in a special funding district.

Theresa's Restaurant also favors extension of the line. Currently, the restaurant pays approximately $1,375 per year in pumping costs.

The balance of businesses along this stretch expressed little or no interest in an extension.

If the town were to pursue the issue further, there are two key points of reference:

- The issue of waste monitoring must be considered. Profiles, for instance, would have to implement a consistent monitoring system to track waste. The company sees this issue "washing out" any gain from sewer extension.
- Interested businesses remain cost sensitive. Any participation in improvements is contingent upon cost. To businesses, the cost of sewer must "compete" with pumping costs.

Estimated current costs are provided below:

Figure 8: Current Pumping Costs per Year for On-site Septic System

Name:	Amount:	Calculation:
Ken's Auto Repair	$32	one pump in last 3 years
Grout Trucking	$16	one pump in last 8 years
Orzeck Corp.	$400	yearly rate
Petrolane	$0	has never pumped
Profiles, Inc.	$5,500	yearly rate
Quality Milk	$300	yearly rate

Theresa's Restaurant	$1,375	yearly rate
Residential (53)	$1,678	based on one pump every 3 years[6]
Total	$9,301	

[6]Estimate from R.J. Poirier, a local pumping concern based in Brimfield.

IV. The Potential for the Future

A. Overview:

This section peers into the future condition of Route 32. It is divided into two sections. The first deals with light to moderate growth on the corridor, with emphasis on the impacts of so-called "infill" scenarios rather than unfettered, intense development.

The second part examines three sites where large development is likely to occur: behind the Post Office; at the corner of Anderson and Palmer; and Gibb's Crossing near the Palmer line. Two to three development scenarios are examined for each site. Each is evaluated in terms of the potential fiscal, traffic and infrastructure impacts on Ware.

B. "Infill" Scenarios:

This section focuses on light to moderate development of the corridor. The basis for this approach is two-fold:

- The vast majority of Route 32 is developed in some way (commercial, industrial or residential). There are few open parcels available for development.
- The corridor's infrastructure condition may hinder large scale development. With a limited supply of water and only one mile served by town sewer, future development is likely to be at small to medium scale.

Certainly, this is not to say large scale development will never occur. Rather, this is the most likely condition to occur, therefore the most practical for forecasting future use.

Four "infill" scenarios are presented:

1) 5% overall growth of the corridor's first mile;

2) 10% overall growth of the first mile;

3) 5% overall growth of the corridor; and

4) 10% overall growth of the corridor.

A 5 % or 10 %"infill" would be to add 5 or 10 % in building size to each structure in the area. This would be equivalent to adding a 200 or a 400 square foot porch, respectively, to a 4,000 square foot house.

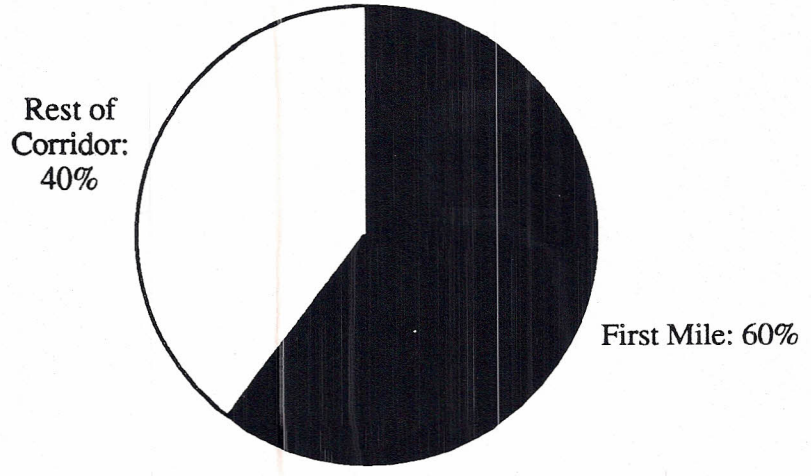
These scenarios do not propose drastic changes in the percentage of land uses (ie.: homes torn down and replaced with office buildings). They address the impacts of moderate growth on the town's financial and infrastructure pictures.

The tax benefit of these developments totals as follows:

Scenario	Net Town Revenue Entire Corridor	Net Town Revenue First Mile Only
5 % Infill	$ 10,964.00	$ 9,457.00
10 % Infill	$ 21,928.00	$ 13,238.00

From the numbers, it is evident the increase in tax dollars emerging from development on Route 32 will be centered on first mile infill. The cost of adding the sewer line extension coupled with smaller revenue gains make development in the first mile a more likely consideration. Figure 9 illustrates the financial numbers of a 10% infill scenario with the first mile as a percentage of total tax gain.

Figure 9: Tax Gain of 10% Infill



These figures do not include information on the three sites of potential development. Each is handled separately in the following sub section

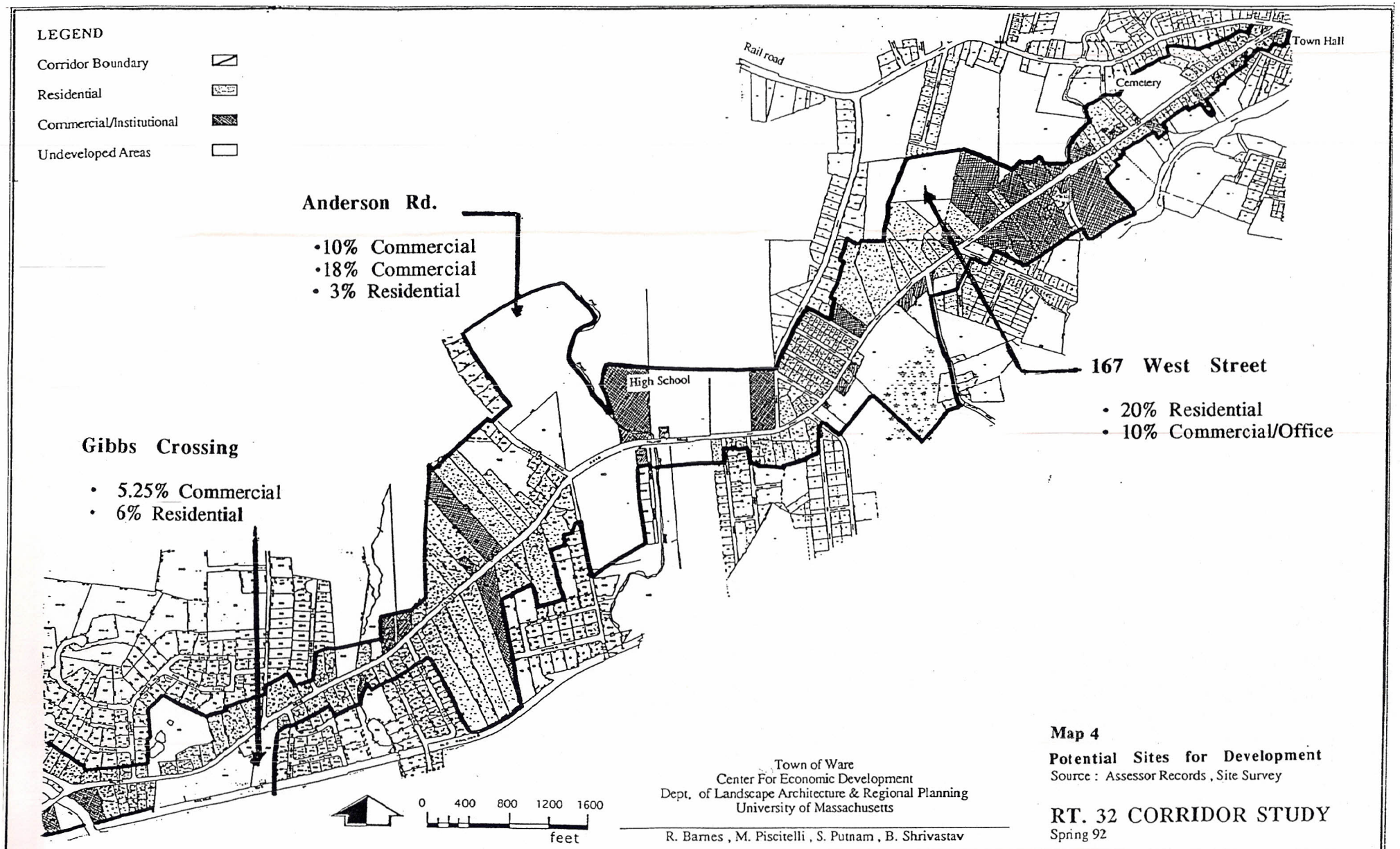
C. Sites for Potential Development

There are three sites on Route 32 as shown in Map 4 with the potential for new development in the near future: the corner of Anderson and Palmer Roads; 167 West Street; and Gibb's Crossing. Plans for development have been drawn for each of the sites. Those proposals and other possible scenarios are explored here.

About the Fiscal Impact Statement. . .

The Fiscal Impact compares the potential revenue for the development against the associated service costs to the Town. Estimated revenue is simply the projected tax levy against the land and its structure development. This figure is determined using information provided by the Town assessors office.

The calculation for service costs depends on the type of development, residential or non-residential. For a residential development, the service costs include estimates of new students in public schools as well as the standard set of Town functions. Since non-residential development has no direct impact on the school system, only the non-school expenses of the Town are considered.



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Map 4

Potential Sites for Development

Source : Assessor Records , Site Survey

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1. 167 West Street:

167 West Street is located on the corridor's first commercial mile. The Parcel has minimal frontage, but extends behind the Post Office for a total of approximately nine acres. In the 1980's plans were put forth to place condominium-style housing on the site. Since then the site has been mentioned as a location for office and commercial space.

The site has been on the market for three years. According to the realtor, the owner is seeking $1.2 million for the property ($133,333/acre).[7] The property includes a home fronting West Street. There is also a second access to the parcel from Brigham Road, leading to Route 9.

The Center looked two potential uses of this site: the existing cluster housing proposal and an office development. The characteristics of the proposals are given below:

Development Scenarios

Use:	Size:
Office, Commercial	39, 204 s.f.
Residential	40 condominium-style units

Fiscal Impact

Both development scenarios explored for 167 West Street present some financial gain to the Town's taxpayers. Of the two, the commercial development poses the larger tax gain with a savings of $6.54 for the average taxpayer.

For the residential development, the fiscal gain is quite minimal. On the other hand, the development would house 14 students to the public school system without an added cost to the Town's taxpayers. An overview of the residential impact is given in Figure 10.

[7]The realtor is Rodney Sinclair of Century 21, Ware.

Figure 10: Estimated Fiscal Impact at 167 West Street
Residential Development

Use:	Residential
Size:	40 Units
Estimated Revenue	$ 34,706.31
Estimated School Cost	$ 33,002.12
Estimated Non School cost	$ 713.29
Net Tax Gain	$ 990.90
Net Fiscal Saving to Typical Household	$ 0.25
Decrease in Tax Rate	$ 0.003

The 39,204 s.f. commercial development would generate approximately $22,233 in tax dollars. Specifics of the fiscal impact are given in Figure 11. The cost to the town for servicing the development would be just under $200 annually. This figure does not include any road improvements which may be required for this site. Specifically, the second access from Route 9 to Brigham Road may require additional service from the town. More information on the traffic impact is provided in Figure 13.

Figure 11: Estimated Fiscal Impact at 167 West Street
Commercial Development

Use:	Commercial
Size:	39,204 s.f.
Estimated Revenue	$ 22,232.96
Estimated Service Cost	$ 196.59
Net Tax Gain	$ 22,036.37
Net Fiscal Saving to Typical Household	$ 6.54
Decrease in Tax Rate:	$.05

Traffic Impact

Traffic in this section of the corridor is extremely heavy at the present time. The 40-unit cluster housing proposal would generate few additional trips comparatively with this area. Figure 12 forecasts trip generation by specific time. The right-of-way onto Brigham Road will alleviate some amount of traffic. Brigham Road may take the same percentage of cars that use Vernon Street to access Route 9 today.

Figure 12: Estimated Additional Traffic at 167 West Street
Residential Development

Use:	Residential
Total No. of Dwelling Units:	40
Average Weekday Vehicle Trip Ends[8]	**= 312**
Trip Ends during morning peak hour of adjacent street traffic	**= 28**
Trip Ends during evening peak hour of adjacent street traffic	**= 32**
Saturday Vehicle Trip Ends	**= 320**

According to the realtor, an office development is the most likely use of the parcel. Traffic projections for a small- to medium-sized office development are given in Figure 13. The numbers reflect a significant increase in traffic for the corridor.

Figure 13: Estimated Additional Traffic at 167 West Street
Office Development

Use:	Office
Size:	39,204 s.f.
Average Weekday Vehicle Trip Ends	**= 694**
Trip Ends during morning peak hour of adjacent street traffic	**= 98**
Trip Ends during evening peak hour of adjacent street traffic	**= 111**

Any traffic-related planning for development on this parcel should look to the surrounding parcels to link the traffic generators. Three driveways (167 West, the Post Office and the second entrance to Philips Plaza) are all in close proximity to one another. See Chapter V. for a further discussion of possible solutions.

[8]Figures based on estimates from *Trip Generation*, Third Edition. Institute of Transportation Engineers, 1982: Washington: ITE.

Of the three sites studied, this is the only one which can take immediate advantage of full town services without additional extension of sewer line.

Water and sewer use for both scenarios is dependent on the number of residents or workers.[9] Figure 14 estimates the water and sewer use for estimated numbers of employees or homes.

Figure 14: Estimated Water and Sewage Use at 167 West Street[10]

Development:	Water Use:	Sewage Use:
40 units Residential	7150 gpd	8580 gpd
39, 204 s.f. Office	750 gpd/50 empl. 375 gpd/25 empl.	750 gpd/50 empl. 375 gpd/25 empl.

[9]Generally, this refers to full-time workers. If there are split shifts and part time workers, adjustments must be made to the total number of employees to reflect this. Also, these figures reflect the system use by workers only. Additional demand, based on the product, is to be done at the specific proposal level.

[10]Office development estimates based on figures from Dines, Nicholas T. and Charles W. Harris. *Time Saver Standards for Landscape Architecture*. New York: McGraw-Hill: 1988. Dines gives standards based on worker or resident. Residential calculations for 167 West: 40 units * 2.86 residents/Ware attached unit (1990 U.S. Census) * 75 sewage gallons per day (62.5 water gallons).

2: Gibb's Crossing:

This 80-acre parcel is located on the east side of Palmer Road near the Palmer line. It is divided into two portions. Less than eight acres are located on the front portion which is adjacent to Palmer Road.

Gibb's Crossing has been the subject of various development proposals. At one time it was proposed that the entire site be subdivided to 94 residential parcels. More recently, plans have been drawn for warehouse and small office space.

The new proposal, along with a scaled-back version of the residential proposal have been analyzed by the Center.[11] Development coverage of the residential proposal would be approximately 54% of the parcel. The warehouse/office plan covers 5.31%.

Fiscal Impact

The two development scenarios for Gibb's Crossing, although different in uses, are very similar in terms of fiscal impact to the Town. The warehouse/office scenario would add approximately $58,000 to the Town's tax rolls, while the residential subdivision would provide over $100,000 ($1,500 per unit). Although the costs for the residential development are significantly higher (school and non-school), Ware taxpayers could still save over $10 on their annual tax bill.

Figure 15: Estimated Fiscal Impact at Gibb's Crossing
Warehouse/Office Development

Use:	Warehouse/Office	
Size:	185,000 s.f.	
Estimated Revenue		$58,661.88
Estimated Service Cost		$518.69
Net Tax Gain		$58,143.19
Net Fiscal Saving to Typical Household		$14.88
Decrease in Tax Rate		$0.13

[11] Under current zoning, Gibb's Crossing can be subdivided into 69 parcels.

Figure 16: Estimated Fiscal Impact at Gibb's Crossing
Residential Development

Use:	Residential
Size:	69 units
Estimated Revenue	$103,050.30
Estimated School Cost	$56,928.66
Estimated Non School Cost	$1,230.43
Net Tax Gain	$44,891.22
Net Fiscal Saving to Typical Household	$11.49
Decrease in Tax Rate	$0.10

Traffic Impact

Current traffic near the Gibb's Crossing site is light. The Massachusetts Highway Department reported a count of 6,150 vehicles per day in 1988. The scenarios presented here take note of the increased traffic volume from the development as well as the creation of a perpendicular intersection between the site and Palmer Road.

The warehouse/office park proposal would generate almost 900 new trip ends on a typical weekday. By way of comparison, even with the increase traffic at this intersection should be about 2,000 vehicles per day lighter than the current traffic load at the corner of Anderson and Palmer.

Figure 17: Estimated Additional Traffic at Gibb's Crossing
Warehouse/Office Development

Use:	Warehouse/Office
Total Area:	185,000 sq. ft.
Warehouse	183,000 sq. ft.
Office	2,000 sq. ft.

Total Average Weekday Vehicle Trip Ends	= **900**
Total Trip Ends during morning peak hour of adjacent street traffic	= **56**
Trip Ends during evening peak hour of adjacent street traffic	= **299**

The 69-unit single-family residential scenario will generate a similar amount of traffic. Based on 10 trips per unit per day, the subdivision would add 690 trips on a typical weekday. As Figure 18 shows, there would be no great disparities between the daily trips and the weekend trips.

Figure 18: Estimated Additional Traffic at Gibb's Crossing Residential Development		
Use:	Residential (Single Family)	
Total No. of Dwelling Units:	69	
Average Weekday Vehicle Trip Ends		**=690**
Saturday Vehicle Trip Ends		**=649**

Infrastructure

There are significant infrastructure constraints to development at Gibb's Crossing. Of the three sites, this is furthest from the current sewer line. The water line also poses a problem. The 6" main may be adequate to serve the needs of the employees (as a warehouse and not a production facility). The estimates in Figure 19 are a good indication of the probable system use. Fire safety is a problem. Massachusetts does not recognize the line as adequate, and fire insurers are equally cautious.

With this in mind, residential development may be one of the more feasible uses of this property. A sewer line extension would add considerable strength to this argument due to the costs associated with an extension.

Figure 19 : Estimated Water and Sewage Use at Gibb's Crossing

Development:	Water Use:	Sewage Use:
185,000 s.f. Warehouse/Office	1500 gpd/100 empl. 3000 gpd/200 empl.	1500 gpd/100 empl. 3000 gpd/200 empl.
69 units Residential[12]	14,542 gpd	12,118 gpd

[12]69 units based on previous subdivision plan for the site downsized fit more recent zoning regulations. Calculation: 2.81 residents/Ware detached unit (1990 U.S. Census)

3: Anderson and Palmer Roads:

Recent plans for this site have received considerable media attention during this year. A proposal has been put forth for a shopping center development which may include a supermarket and discount store.

The site consists of over twenty acres at the corner of the two streets. It is served by town water, but not town sewer. There is direct access to Route 9 via Anderson Road.

The Center has assessed three commercial developments of various sizes up to 160,000 s.f. of shopping space. The highlights of theses potential developments are provided below:

Characteristics of Anderson & Palmer
Development Scenarios

Use:	Size:
Commercial	87,500 s.f.
Commercial	156,100 s.f.
Residential	10-unit subdivision

Fiscal Impact

The three Gibb's Crossing provide the greatest disparity in terms of tax gains from various developments. Again, the tax roll will increase with any of the development scenarios even with the accompanying service costs.

Of the three, the 156,100 s.f. commercial development would provide the greatest tax benefit. Development of that scenario would amount to a $70,500 net fiscal gain to the Town. As with the 167 West Street site, roadway and other improvements are not included in the fiscal impact statement.

The residential development will also do better than break even for the Town. This fiscal impact includes the cost of an additional 4 students who would live in the new units.

The three fiscal impacts are provided in Figures 20, 21 and 22 below.

Figure 20: Estimated Fiscal Impact at Anderson Road Commercial Development

Use:	Commercial
Size:	87,500 s.f.
Estimated Revenue	$ 40,221 .31
Estimated Service Cost	$355.64
Net Fiscal Gain	$ 39,865.66
Net Tax Saving to Typical Household	$10.20
Decrease in Tax Rate	$0.09

Figure 21: Estimated Fiscal Impact at Anderson Road Commercial Development

Use:	Commercial
Size:	156,100 s.f.
Estimated Revenue	$ 71,165.39
Estimated Service Cost	$ 629.25
Net Fiscal Gain	$70,536.14
Net Tax Saving to Typical Household	$18.05
Decrease in Tax Rate	$0.16

Figure 22: Estimated Fiscal Impact at Anderson Road Residential Development

Use:	Residential
Size:	10 units
Estimated Revenue	$15,250.80
Estimated School Cost	$8,250.53
Estimated Non School Cost	$178.32
Net Tax Gain	$6,821.95
Net Fiscal Saving to Typical Household	$1.75
Decrease in Tax Rate	$0.02

Traffic Impact

The following tables (Figure 23 and Figure 24) serve warning as to the high volume of new vehicle trips that can be expected with new shopping center development.

If a commercial retail plaza were to be developed, there will be two major traffic concerns:

- The large numbers of new car trips to the area; and

- The off-center intersection with Malboeuf Road.

Although Malboeuf should not experience a heavy increase in traffic, it will likely be included should a new traffic system be installed.

Figure 23: Estimated Additional Traffic at Anderson and Palmer Commercial Development

Use:	Commercial
Total Area:	87,500 sq. ft.
Average Weekday Vehicle Trip Ends	= **7,175**
Trip Ends during morning peak hour of adjacent street traffic	= **210**
Trip Ends during evening peak hour of adjacent street traffic	= **683**
Saturday Vehicle Trip Ends	= **9,363**
Trip Ends during peak hour of generator on Saturday	= **971**

Figure 24: Estimated Additional Traffic at Anderson and Palmer Commercial Development

Use:	Commercial
Total Area:	156,100 sq. ft.
Average Weekday Vehicle Trip Ends	= **10,405**
Trip Ends during morning peak hour of adjacent street traffic	= **265**
Trip Ends during evening peak hour of adjacent street traffic	= **926**
Saturday Vehicle Trip Ends	= **17,534**
Trip Ends during peak hour of generation on Saturday	= **1,388**

By contrast, a residential development will not generate a great number of cars to this area. Figures for a small subdivision are given in Figure 25.

Figure 25: Estimated Additional Traffic at Anderson and Palmer Residential Development

Use:	Residential (Single Family)
Total No. of Dwelling Units:	5
Average Weekday Vehicle Trip Ends	**= 50**
Trip Ends during morning peak hour of adjacent street traffic	**= 4**
Trip Ends during evening peak hour of adjacent street traffic	**= 5**
Saturday Vehicle Trip Ends	**= 51**

Infrastructure

According to S.R. Weimer, the current commercial plan (156,100 s.f.) proposes several alternative ways to connect to the town sewer line. The chosen alternative will be maintained by the developer.[13]

The parcel is well-suited in terms of water service. Two 12" mains and the 6" main converge at the corner, thus providing multiple potential water carriers to the parcel.

Figure 26 outlines the expected water and sewer for all scenarios examined.

Figure 26: Estimated Water and Sewage Use at Anderson and Palmer Roads

Development:[14]	Water Use:	Sewage Use:
87,500 s.f Commercial	3,698 gpd	4,068 gpd
156,100 s.f. Commercial	7,800 gpd	8,580 gpd
10 units Residential	1,756 gpd	2,108 gpd

[13]Interview with SR Weiner's Robert Berry, 5-1-92.

[14]Commercial figures provided by the Environmental Notification Form for a current 156,100 s.f. proposal on the site. The 87,500 s.f. figure provides the impact of a downsized version of the proposal. 5 residential units based on subdivision plan with 50% site coverage.

V. Conclusions and Recommendations

Route 32 is a critical artery in Ware. West Street hosts many of the town's commercial and retail stores, while Palmer Road links Ware with the Massachusetts Turnpike. The corridor includes: a mixture of land uses; land uses with sizable tax contributions; and land uses which generate large amounts of traffic.

At present, Route 32 is one of the most popular areas for development in the Town. Along with the downtown and mill buildings, Route 32 is often mentioned for new growth. It is expected the three sites examined in this report will be developed in the near future. Also, there are other large parcels on both West Street and Palmer Road which could be developed with few natural constraints.

In order to assess the future of Route 32, the Center has focused on three potential pitfalls:

- Traffic;
- Water; and
- Sewer

An overload of one or more of these infrastructure services could damage the service of the entire corridor.

In order to address these concerns and to assist Ware in planning for future development, the Center has recommended some preemptive measures for managing growth on the corridor.

Concern:	Possible Solution:
High Traffic Development	Require a Traffic Impact Statement for any new development which will generate 100 or more new vehicle trips per day. Require developer to help mitigate impacts of a heavy increase in traffic.
Sewer & Water Use	Monitor present use to calculate excess capacity.
Sewer Line Extension	Hold until demand for service increases.

Zoning Use Chart	Require Site Plan Approval for the following HC uses: Retail, Services and Banks. Require SPA for the following RB1 use: single-family residential.

Other recommendations outside the purview of this report but which should be considered:

Concern:	Possible Solution:
Pedestrian Safety	Install walk lights and crosswalks with any new traffic signals on West Street.
Abutters to Commercial Property	Noise, Sign and Light Control Requirements as part of the SP/SPA procedure.

These measures in and of themselves will not insure orderly, planned development growth along the corridor. They are preemptive measures which, combined with existing zoning regulations, form an adequate tool for preventing a breakdown of infrastructure services.

Commercial Parcels									
Map No.	Lot No.	Street	Address	Area	Structure	Bld Val	Lnd Val	Total Value	Taxes
				s.f.	s.f.	$	$		
56	114	109	West	7500	770	$45,000	$61,200	$106,200	$1,140.59
56	115	105	West	10364	3666	$85,100	$66,800	$151,900	$1,631.41
55	58		West	20909	0	$0	$37,200	$37,200	$399.53
55	60	173	West	10000	1152	$82,900	$66,000	$148,900	$1,599.19
55	61	171	West	26571	816	$51,500	$98,300	$149,800	$1,608.85
55	65		West	67082	17401	$629,100	$255,000	$884,100	$9,495.23
52	90	176	West	4765	3456	$57,000	$117,300	$174,300	$1,871.98
52	102		West	20272	3000	$169,500	$90,600	$260,100	$2,793.47
52	103-1		West	25000	0	$0	$63,000	$63,000	$676.62
52	104		West	653400	5385	$90,000	$165,600	$255,600	$2,745.14
52	104-1		West	11115	0	$0	$18,300	$18,300	$196.54
52	106		West	780	0	$0	$1,900	$1,900	$20.41
52	107		West	11005	0	$0	$26,300	$26,300	$282.46
52	109	220	West	20577	1952	$98,400	$58,200	$156,600	$1,681.88
52	111	224	West	40609	1568	$89,300	$60,900	$150,200	$1,613.15
52	115	228	West	64033	768	$24,000	$21,600	$45,600	$489.74
52	117	234	West	-	2919	$44,700	$29,100	$73,800	$792.61
52	38	197	West	15430	3000	$126,500	$52,800	$179,300	$1,925.68
52	20		West&4th	15000	0	$0	$37,400	$37,400	$401.68
53	85		West	11162	0	$0	$33,900	$33,900	$364.09
53	88		West	14700	?	$6,600	$44,700	$51,300	$550.96
53	89		West	131551	0	$0	$99,700	$99,700	$1,070.78
51	48	224	West	9614	1312	$107,300	$32,600	$139,900	$1,502.53
10	38	282	Palmer	91476	1481	$93,500	$30,300	$123,800	$1,329.61
10	105	315	Palmer	1244509	4800	$139,300	$78,300	$217,600	$2,337.02
10	106	299	Palmer	51401	2600	$202,800	$57,700	$260,500	$2,797.77
10	109	291	Palmer	123710	1120	$68,300	$79,800	$148,100	$1,590.59
10	111	277	Palmer	196020	24440	$565,900	$104,200	$670,100	$7,196.87

Commercial Parcels									
Map No.	Lot No.	Street	Address	Area	Structure	Bld Val	Lnd Val	Total Value	Taxes
				s.f.	s.f.	$	$		
52	1	233	West	152460	N/A	$0	$0	$0	$0.00
10	39		Palmer	6990	n/a	$0	$0	$0	$0.00
60	149	144	Main	5852	1976	$113,800	$57,900	$171,700	$1,844.06
60	150		W. Main	14400	1856	$74,700	$45,500	$120,200	$1,290.95
60	147	11 to 15	West	7130	1094	$22,100	$48,300	$70,400	$756.10
56	38	12	West	1453	576	$30,700	$16,300	$47,000	$504.78
56	30	55	West	10570	1732	$43,200	$67,200	$110,400	$1,185.70
56	70	18	West	11356	1040	$130,500	$69,200	$199,700	$2,144.78
56	71		West	18731	?	$88,600	$87,100	$175,700	$1,887.02
56	72	36 to 38	West	8960	1456	$53,800	$32,000	$85,800	$921.49
56	75		West	11326	3150	$129,600	$69,300	$198,900	$2,136.19
56	76	52	West	6250	2049	$14,700	$11,700	$26,400	$283.54
56	89	96	West	24550	7200	$133,200	$103,200	$236,400	$2,538.94
56	91-2			25000	0	$0	$104,300	$104,300	$1,120.18
56	94	124	West	304920	26200	$967,800	$432,500	$1,400,300	$15,039.22
56	95		West	15814	1502	$42,500	$106,900	$149,400	$1,604.56
56	96		West	32234	2774	$67,600	$154,700	$222,300	$2,387.50
56	98		West	18351	1600	$229,800	$69,700	$299,500	$3,216.63
56	99	136	West	46609	12000	$168,400	$159,400	$327,800	$3,520.57
56	100		West	17000	1820	$47,000	$99,100	$146,100	$1,569.11
56	101		West	71003	17684	$477,500	$269,800	$747,300	$8,026.00
56	101-1		West	19191	P-LOT	$4,500	$72,900	$77,400	$831.28
56	102		West	71874	41000	$1,344,000	$273,100	$1,617,100	$17,367.65
56	105		West	74052	2234	$324,200	$175,100	$499,300	$5,362.48
56	106	143	West	8749	1872	$123,400	$84,700	$208,100	$2,234.99
56	107		West	75345	13000	$317,700	$175,700	$493,400	$5,299.12
56	109	131	West	19520	1863	$86,900	$118,700	$205,600	$2,208.14
56	111	117	West	52708	4620	$745,000	$200,300	$945,300	$10,152.52

Commercial Parcels									
Map No.	Lot No.	Street	Address	Area	Structure	Bld Val	Lnd Val	Total Value	Taxes
				s.f.	s.f.	$	$		
9	89	353	Palmer	36559	1212	$35,300	$47,500	$82,800	$889.27
9	137	321	Palmer	35796	2400	$124,800	$54,100	$178,900	$1,921.39
Exempt Parcels									
Map No.	Lot No.	Street	Address	Area	Structure	Bld Val	Lnd Val	Total Value	Taxes
				s.f.	s.f.	$	$		
60	143		Main	19995	9776	$798,100	$96,000	$894,100	$0.00
56	26		West	239144	cemetary	$0	$0	$0	$0.00
56	35		West	13300	3520	$234,900	$78,700	$313,600	$0.00
56	39	14	West	1597	820	$46,700	$9,600	$56,300	$0.00
55	63	165	West	91476	9872	$714,000	$29,300	$743,300	$0.00
55	64	161	West	172498	15688	$1,258,600	$154,600	$1,413,200	$0.00
Industrial Parcels									
Map No.	Lot No.	Street	Address	Area	Structure	Bld Val	Lnd Val	Total Value	Taxes
				s.f.	s.f.	$	$		
56	31	51	West	52272	5100	$126,300	$64,800	$191,100	$2,052.41
16	12		Palmer	217800	27132	$627,800	$155,200	$783,000	$8,409.42
10	43	347	Palmer	165964	4096	$48,100	$58,500	$106,600	$1,144.88

Residential Parcels									
Map No.	Lot No.	Street	Address	Area	Structure	Bld Val	Lnd Val	Total Value	Taxes
				s.f.	s.f.	$	$		
60	144	8 to 10	West	6045	1993	$161,400	$19,400	$180,800	$1,941.79
60	146	19	West	4116	1332	$92,800	$15,400	$108,200	$1,162.07
60	145	23to27	West	11510	1496	$151,400	$23,400	$174,800	$1,877.35
56	24	1 to 5	Vernon	6826	1914	$125,600	$19,900	$145,500	$1,562.67
56	25	95	West	4520	garage-?	$2,700	$13,600	$16,300	$175.06
56	28	65	Main	13393	1760	$114,800	$27,300	$142,100	$1,526.15
56	29	61	West	6970	1408	$103,700	$22,000	$125,700	$1,350.02
56	32	47to49	West	12300	1106	$86,000	$23,900	$109,900	$1,180.33
56	33	41	West	20350	1536	$169,600	$30,300	$199,900	$2,146.93
56	34	37	West	7497	814	$42,900	$20,400	$63,300	$679.84
56	36	33	West	8860	1200	$69,600	$21,300	$90,900	$976.27
56	37		West	11326	1378	$84,400	$23,100	$107,500	$1,154.55
56	72	36to38	West	n/a	3267	$50,600	$8,500	$59,100	$634.73
56	73	44	West	4614	1254	$84,400	$15,600	$100,000	$1,074.00
56	74	40	West	3538	1021	$57,300	$13,300	$70,600	$758.24
56	76	52	West	n/a	1460	$65,100	$12,500	$77,600	$833.42
56	78	54	West	11200	1125	$90,600	$23,000	$113,600	$1,220.06
56	79	64	West	10700	1320	$84,000	$90,300	$174,300	$1,871.98
56	80*	62	West	10700	1320	$79,700	$22,600	$102,300	$1,098.70
56	81	68	West	8997	2400	$113,600	$21,300	$134,900	$1,448.83
56	82	72	West	7300	1120	$65,300	$20,200	$85,500	$918.27
56	84	74	West	6850	1520	$90,800	$19,900	$110,700	$1,188.92
56	85	82	West	10856	1020	$64,300	$20,400	$84,700	$909.68
56	86	84	West	5000	1124	$76,700	$18,800	$95,500	$1,025.67
56	87	88	West	5000	784	$69,300	$18,800	$88,100	$946.19
56	88	94	West	22216	1336	$86,500	$32,200	$118,700	$1,274.84
56	91-1		West	261360	0	$0	$30,300	$30,300	$325.42
56	91	110	West	10800	840	$67,500	$22,700	$90,200	$968.75

Residential Parcels									
Map No.	Lot No.	Street	Address	Area	Structure	Bld Val	Lnd Val	Total Value	Taxes
				s.f.	s.f.	$	$		
56	92	114	West	15855	1084	$46,200	$26,600	$72,800	$781.87
56	93	118	West	19122	861	$66,000	$29,300	$95,300	$1,023.52
56	103	159	West	14520	1342	$82,200	$25,600	$107,800	$1,157.77
56	104	157	West	15690	1053	$57,800	$26,500	$84,300	$905.38
56	112	115	West	27600	1564	$89,600	$37,500	$127,100	$1,365.05
56	113	111	West	9300	868	$59,900	$21,600	$81,500	$875.31
56	116	103	West	5663	1008	$68,600	$19,200	$87,800	$942.97
55	59*		West	307969	0	$0	$12,800	$12,800	$137.47
55	62	167	West	131987	2336	$117,800	$48,400	$166,200	$1,784.99
52	69	193	West	434293	1500	$91,100	$53,700	$144,800	$1,555.15
52	70	185	West	49658	1500	$59,600	$42,200	$101,800	$1,093.33
52	71	183	West	57000	1480	$65,200	$43,400	$108,600	$1,166.36
52	72	181	West	172933	23063	$2,066,700	$492,300	$2,559,000	$27,483.66
52	73	175	West	22447	0	$0	$25,800	$25,800	$277.09
52	74	175	West	24526	1024	$59,900	$34,300	$94,200	$1,011.71
52	75		Homecrest	27870	4800	$393,900	$50,400	$444,300	$4,771.78
52	89	170	West	18232	922	$61,700	$28,600	$90,300	$969.82
52	90	176	West	n/a	796	$15,800	$76,200	$92,000	$988.08
52	105	208	West	9145	602	$47,200	$19,300	$66,500	$714.21
52	108	214	West	9278	1080	$57,600	$21,500	$79,100	$849.53
52	110	222	West	112385	1842	$60,700	$48,000	$108,700	$1,167.44
52	114		Hillside	10695	0	$0	$21,700	$21,700	$233.06
52	115	228	West	-	996	$95,500	$29,100	$124,600	$1,338.20
52	116	232	West	26400	1512	$93,800	$36,200	$130,000	$1,396.20
52	117	234	West	32500	2916	$43,600	$19,300	$62,900	$675.55
52	65	229	West	43560	1765	$75,200	$44,000	$119,200	$1,280.21
52	66	227	West	11334	1578	$100,900	$23,100	$124,000	$1,331.76
52	67		West	6050	0	$0	$9,700	$9,700	$104.18

Residential Parcels									
Map No.	Lot No.	Street	Address	Area	Structure	Bld Val	Lnd Val	Total Value	Taxes
				s.f.	s.f.	$	$		
52	68	225	West	6135	1424	$64,300	$19,500	$83,800	$900.01
52	62	223	West	5690	1256	$58,400	$19,200	$77,600	$833.42
52	61	221	West	16176	1040	$59,400	$2,700	$62,100	$666.95
52	51	219	West	10427	1008	$62,900	$22,300	$85,200	$915.05
52	50	3	Second	20000	772	$37,600	$30,000	$67,600	$726.02
52	39	199	West	15000	1156	$64,600	$26,000	$90,600	$973.04
52	19	7	Fourth	63598	1356	$81,900	$44,200	$126,100	$1,354.31
52	11		Gould	191664	0	$0	$52,300	$52,300	$561.70
16	11		Palmer	2654111	0	$0	$174,400	$174,400	$1,873.06
16	13	245	West	12500	1314	$49,600	$28,800	$78,400	$842.02
16	14	237	West	1916640	0	$0	$41,100	$41,100	$441.41
51	26	236	West	38583	1578	$86,400	$40,100	$126,500	$1,358.61
51	27		West	15193	1170	$125,800	$26,100	$151,900	$1,631.41
51	47	242	West	15964	1084	$65,700	$26,800	$92,500	$993.45
10	128		Brookside	21800	1892	$181,200	$35,100	$216,300	$2,323.06
10	129	256	Palmer	653400	1242	$62,900	$88,100	$151,000	$1,621.74
10	37	278	Palmer	35662	1067	$6,800	$47,100	$53,900	$578.89
10	40	286	Palmer	152460	2008	$69,700	$65,000	$134,700	$1,446.68
10	41	288	Palmer	38855	1348	$69,300	$48,200	$117,500	$1,261.95
10	42	290	Palmer	91476	1274	$57,500	$54,100	$111,600	$1,198.58
10	44	296	Palmer	203861	2070	$77,700	$58,600	$136,300	$1,463.86
10	45	298	Palmer	201247	1786	$103,900	$51,100	$155,000	$1,664.70
10	46	300	Palmer	196891	2496	$104,900	$63,900	$168,800	$1,812.91
10	47	304	Palmer	248292	1328	$71,100	$67,900	$139,000	$1,492.86
10	48	306	Palmer	17000	1308	$41,400	$33,000	$74,400	$799.06
10	65	308	Palmer	12650	1388	$63,400	$29,000	$92,400	$992.38
10	66	310	Palmer	15498	1680	$65,200	$31,600	$96,800	$1,039.63
10	100	312	Palmer	27090	1580	$75,500	$44,200	$119,700	$1,285.58

Residential Parcels									
Map No.	Lot No.	Street	Address	Area	Structure	Bld Val	Lnd Val	Total Value	Taxes
				s.f.	s.f.	$	$		
52	68	225	West	6135	1424	$64,300	$19,500	$83,800	$900.01
52	62	223	West	5690	1256	$58,400	$19,200	$77,600	$833.42
52	61	221	West	16176	1040	$59,400	$2,700	$62,100	$666.95
52	51	219	West	10427	1008	$62,900	$22,300	$85,200	$915.05
52	50	3	Second	20000	772	$37,600	$30,000	$67,600	$726.02
52	39	199	West	15000	1156	$64,600	$26,000	$90,600	$973.04
52	19	7	Fourth	63598	1356	$81,900	$44,200	$126,100	$1,354.31
52	11		Gould	191664	0	$0	$52,300	$52,300	$561.70
16	11		Palmer	2654111	0	$0	$174,400	$174,400	$1,873.06
16	13	245	West	12500	1314	$49,600	$28,800	$78,400	$842.02
16	14	237	West	1916640	0	$0	$41,100	$41,100	$441.41
51	26	236	West	38583	1578	$86,400	$40,100	$126,500	$1,358.61
51	27		West	15193	1170	$125,800	$26,100	$151,900	$1,631.41
51	47	242	West	15964	1084	$65,700	$26,800	$92,500	$993.45
10	128		Brookside	21800	1892	$181,200	$35,100	$216,300	$2,323.06
10	129	256	Palmer	653400	1242	$62,900	$88,100	$151,000	$1,621.74
10	37	278	Palmer	35662	1067	$6,800	$47,100	$53,900	$578.89
10	40	286	Palmer	152460	2008	$69,700	$65,000	$134,700	$1,446.68
10	41	288	Palmer	38855	1348	$69,300	$48,200	$117,500	$1,261.95
10	42	290	Palmer	91476	1274	$57,500	$54,100	$111,600	$1,198.58
10	44	296	Palmer	203861	2070	$77,700	$58,600	$136,300	$1,463.86
10	45	298	Palmer	201247	1786	$103,900	$51,100	$155,000	$1,664.70
10	46	300	Palmer	196891	2496	$104,900	$63,900	$168,800	$1,812.91
10	47	304	Palmer	248292	1328	$71,100	$67,900	$139,000	$1,492.86
10	48	306	Palmer	17000	1308	$41,400	$33,000	$74,400	$799.06
10	65	308	Palmer	12650	1388	$63,400	$29,000	$92,400	$992.38
10	66	310	Palmer	15498	1680	$65,200	$31,600	$96,800	$1,039.63
10	100	312	Palmer	27090	1580	$75,500	$44,200	$119,700	$1,285.58

Residential Parcels									
Map No.	Lot No.	Street	Address	Area	Structure	Bld Val	Lnd Val	Total Value	Taxes
				s.f.	s.f.	$	$		
10	.01 &10	314	Palmer	25191	2388	$92,900	$3,350	$96,250	$1,033.73
10	103	316	Palmer	116741	1956	$91,600	$51,500	$143,100	$1,536.89
10	104	318	Palmer	29370	1296	$93,100	$45,800	$138,900	$1,491.79
10	105-1		Palmer	40001	1200	$66,400	$58,000	$124,400	$1,336.06
10	107		Palmer	43560	1256	$65,300	$49,700	$115,000	$1,235.10
10	107-1		Palmer	784080	0	$0	$89,100	$89,100	$956.93
10	108	291	Palmer	149846	1354	$78,900	$55,500	$134,400	$1,443.46
10	110	281	Palmer	138085	1848	$66,500	$59,100	$125,600	$1,348.94
10	110-1	279	Palmer	22754	636	$26,900	$39,400	$66,300	$712.06
10	112	275	Palmer	217800	1290	$89,300	$65,500	$154,800	$1,662.55
10	113		Palmer	113256	0	$0	$46,300	$46,300	$497.26
10	114	273	Palmer	67518	1804	$96,000	$53,400	$149,400	$1,604.56
10	115		Palmer	28314	988	$76,000	$45,600	$121,600	$1,305.98
10	.16 &11	269	Palmer	22475	1398	$76,600	$36,100	$112,700	$1,210.40
10	118	267	Palmer	35960	1157	$45,300	$47,500	$92,800	$996.67
10	119	265	Palmer	26040	1694	$81,700	$43,200	$124,900	$1,341.43
10	180	222	West	1564675	0	$0	$49,800	$49,800	$534.85
9	20	1	Old Btown	44867	1080	$67,600	$41,700	$109,300	$1,173.88
9	21		Palmer	29190	0	$0	$27,400	$27,400	$294.28
9	21-1	365	Palmer	28150	1632	$96,200	$45,300	$141,500	$1,519.71
9	22	363	Palmer	18930	2060	$76,700	$35,000	$111,700	$1,199.66
9	86	361	Palmer	16030	1184	$93,300	$32,100	$125,400	$1,346.80
9	87	357	Palmer	25000	1520	$66,900	$42,000	$108,900	$1,169.59
9	88	355	Palmer	19550	1770	$88,700	$35,600	$124,300	$1,334.98
9	90		Palmer	322344	0	$0	$50,900	$50,900	$546.67
9	90-1		Palmer	27020	0	$0	$30,800	$30,800	$330.79
9	91	349	Palmer	65776	1366	$61,400	$53,300	$114,700	$1,231.88
9	92	343	Palmer	81893	1745	$75,100	$54,600	$129,700	$1,392.98

Residential Parcels									
Map No.	Lot No.	Street	Address	Area	Structure	Bld Val	Lnd Val	Total Value	Taxes
				s.f.	s.f.	$	$		
9	93	333	Palmer	51836	1728	$75,200	$50,800	$126,000	$1,353.24
9	117	329	Palmer	91476	1604	$68,600	$55,300	$123,900	$1,330.69
9	118	2	Kingsberry	16579	1536	$63,000	$32,700	$95,700	$1,027.82
9	136	325	Palmer	50094	2344	$141,800	$51,100	$192,900	$2,071.75
9	138		Palmer	326700	768	$48,600	$71,400	$120,000	$1,288.80
9	139	320	Palmer	20000	2208	$89,200	$36,000	$125,200	$1,344.65
9	140		Palmer	48352	0	$0	$25,100	$25,100	$269.57
9	141		Palmer	38300	?	$4,400	$24,100	$28,500	$306.09
9	142	330	Palmer	23100	1337	$47,400	$39,700	$87,100	$935.45
9	161	332	Palmer	15000	1532	$68,300	$31,200	$99,500	$1,068.63
9	162	336	Palmer	139828	768	$48,100	$59,200	$107,300	$1,152.40
9	163	344	Palmer	26571	1900	$81,300	$43,600	$124,900	$1,341.43
9	164		Palmer	871200	0	$0	$99,100	$99,100	$1,064.33
9	165	358	Palmer	18400	1188	$71,200	$34,400	$105,600	$1,134.14
9	166	360	Palmer	24811	1052	$59,400	$41,700	$101,100	$1,085.81
9	67 &16	362	Palmer	30486	1208	$67,900	$34,900	$102,800	$1,104.07
9	169	364	Palmer	37637	1928	$80,500	$47,800	$128,300	$1,377.94
9	170		Palmer	76230	0	$0	$43,300	$43,300	$465.04
9	170-1	366	Palmer	49658	1344	$75,000	$50,700	$125,700	$1,350.02

Principle Use Regulations

General Uses	RB1	HC
Agriculture	Y	Y
Livestock, Riding Stables	SP	N
Piggeries	Y	Y
Roadside Farmstand	Y	Y
Smokehouses	SP	N
Forests & Woodlots	SP	SP
Lumbermill	N	N
Earth Removal	N	N
Conservation Land	Y	Y
Commercial Greenhouse	Y	Y
Golf	SP/SPA	N
Camping	SP	N

Gov't, Institutional & Public Service Uses	RB1	HC
Religious	Y	Y
Educational	Y	Y
Education and/or Religious on State Land	SP	SP
Parks, Playgrounds, Rec. & Comm. Ctrs.	Y	Y
Gov't Buildings	Y	Y
Health & Human Services	SP	SP
Utilities	N	SP/SPA
Hospitals	N	N
Research Facilities	N	SP
Aviation Fields	N	N
Membership Clubs	SP	SP
Nursing and Convalescent Homes	SP	SP

Industrial Uses	RB1	HC
Light Industry	SP/SPA	SP/SPA
Industries Not Restricted	N	SP/SPA
Restricted Industries	N	N

Business Uses	RB 1	HC
Home Occupation	Y	Y
Retail	SP/SPA	Y
Services	SP/SPA	Y
Banks	SP/SPA	Y
Non-family Accommodatio	SP/SPA	SP/SPA
Motels/Hotels	SP/SPA	SP/SPA
Restaurants	SP/SPA	Y
Fast Food	N	SP/SPA
Meeting Halls	SP/SPA	SP/SPA
Office Buildings	SP/SPA	SP/SPA
Public Garage	N	SP
Auto Serve Station	N	SP
Auto Salvage	N	N
Auto Sales	N	Y
Open Air Parking	N	SP
Amusement Parks	N	SP/SPA
Bowling Alleys	N	SP/SPA
Roller Rinks	N	SP/SPA
Wholesales	N	Y
Warehousing	SP/SPA	SP/SPA
Theatres	SP/SPA	SP/SPA
Funeral Homes	N	SP/SPA
Kennels	SP	SP
Veterinarian Office	SP	SP/SPA
Medical Lab	N	SP
Gift Shop	SP	Y
Trade School	N	SP/SPA
Drinking Establishment	SP/SPA	SP/SPA

Residential Uses	RB1	HC
Single Family	Y	Y
Two Family	SP	SP
Tri and Quadplex	N	SP/SPA
Multi-family	N	SP/SPA
House Conversion	SP	SP
House Addition	SP	SP
Room Rental	SP	SP
Boarding House	SP	SP
Mobile Home Parks	N	N

Current Land Uses of Route 32

	Area (sf)	Structure (sf)	Bld.Value	Land Value	Total Value	Tax Bill
Commercial	3,943,859	235,516	$8,718,000	$5,094,900	$13,812,900	$148,350.55
Industrial	436,036	36,328	$802,200	$278,500	$1,080,700	$11,606.72
Residential	15,067,393	185,032	$10,896,500	$5,446,750	$16,343,250	$175,526.51
Other	538,010	39,676	$3,052,300	$368,200	$3,420,500	$0.00
Total	19,985,298	496,552	$23,469,000	$11,188,350	$34,657,350	$335,483.78

Impact of a 5% Buildout of Existing Route 32 Land Uses

	Area (sf)	Structure (sf)	Bld.Value	Land Value	Total Value	Tax Bill
Commercial	3,943,859	247,292	$9,153,900	$5,094,900	$14,248,800	$153,032.11
Industrial	436,036	38,144	$842,310	$278,500	$1,120,810	$12,037.50
Residential	15,067,393	194,284	$11,441,325	$5,446,750	$16,888,075	$181,377.93
Other	538,010	41,660	$3,204,915	$368,200	$3,573,115	$0.00
Total	19,985,298	521,380	$24,642,450	$11,188,350	$35,830,800	$346,447.54

Impact of 10% Buildout of Existing Route 32 Land Uses

	Area (sf)	Structure (sf)	Bld.Value	Land Value	Total Value	Tax Bill
Commercial	3,943,859	259,068	$9,589,800	$5,094,900	$14,684,700	$157,713.68
Industrial	436,036	39,961	$882,420	$278,500	$1,160,920	$12,468.28
Residential	15,067,393	203,535	$11,986,150	$5,446,750	$17,432,900	$187,229.35
Other	538,010	43,644	$3,357,530	$368,200	$3,725,730	$0.00
Total	19,985,298	546,207	$25,815,900	$11,188,350	$37,004,250	$357,411.30

Current Land Uses of Route 32's First Mile

	Area (sf)	Structure (sf)	Bld. Value	Land Value	Total Value	Tax Bill
Commercial	1,115,374	174,103	$6,674,800	$3,689,100	$10,363,900	$111,308.29
Industrial	52,272	5,100	$126,300	$64,800	$191,100	$2,052.41
Residential	1,037,357	77,331	$5,524,400	$1,531,300	$7,055,700	$75,778.22
Other	538,010	39,676	$3,052,300	$368,200	$3,420,500	$0.00
Total	2,743,013	296,210	15,377,800	$5,653,400	$21,031,200	$189,138.92

Impact of a 5% Buildout of First Mile

	Area (sf)	Structure (sf)	Bld. Value	Land Value	Total Value	Tax Bill
Commercial	1,115,374	182,808	$7,008,540	$3,689,100	10,697,640	$114,892.65
Industrial	52,272	5,355	$132,615	$64,800	197,415	$2,120.24
Residential	1,037,357	81,198	$5,800,620	$1,531,300	7,331,920	$78,744.82
Other	538,010	41,660	$3,204,915	$368,200	3,573,115	$0.00
Total	2,743,013	311,021	$16,146,690	$5,653,400	21,800,090	$195,757.71

Impact of a 10% Buildout of First Mile

	Area (sf)	Structure (sf)	Bld. Value	Land Value	Total Value	Tax Bill
Commercial	1,115,374	191,513	$7,342,280	$3,689,100	$11,031,380	$118,477.02
Industrial	52,272	5,610	$138,930	$64,800	$203,730	$2,188.06
Residential	1,037,357	85,064	$6,076,840	$1,531,300	$7,608,140	$81,711.42
Other	538,010	43,644	$3,357,530	$368,200	$3,725,730	$0.00
Total	2,743,013	325,831	$16,915,580	$5,653,400	$22,568,980	$202,376.51

Traffic Impact Analysis for Selected Sites

167 West St.

Use: Residential	
Total No. of Dwelling Units: 40	
Average Weekday Vehicle Trip Ends	=7.8/unit (40*7.8) **=312**
Trip Ends during morning peak hour of adjacent street traffic	=0.7/unit (40*.7) **=28**
Trip Ends during evening peak hour of adjacent street traffic	=0.8/unit (40*.8) **=32**
Saturday Vehicle Trip Ends	=8/unit (40*8) **=320**

Use: Office	
Size: 39,204 s.f.	
Average Weekday Vehicle Trip Ends	=17.7/1000 s.f. (17.7*39.2) **=694**
Trip Ends during morning peak hour of adjacent street traffic	=2.5/1000 s.f. (2.5*39.2) **=98**
Trip Ends during evening peak hour of adjacent street traffic	=2.82/1000 s.f. (2.82*39.2) **=111**

Gibb's Crossing:

Use: Warehousing	
Total Area : 185,000 sq. ft.	
Warehouse: 183,000 sq. ft.	
Office: 2,000 sq. ft.	
<u>Trips generated due to Warehouse</u>	
Average Weekday Vehicle Trip Ends	=4.88/1000 s.f. (183*4.88) **=893**
Trip Ends during morning peak hour of adjacent street traffic	=0.66/1000 s.f.

	(183*.66) **=55**
Trip Ends during evening peak hour of adjacent street traffic	=1.63/1000 s.f. (183*1.63) **=299**
<u>Trips generated due to Office</u>	
Average Weekday Vehicle Trip Ends	=3.7/1000 s.f. (3.7*2) **=7**
Trip Ends during morning peak hour of adjacent street traffic	=0.54/1000 s.f. (2*1000 s.f) **=1**
Trip Ends during evening peak hour of adjacent street traffic	=0.54/1000 s.f. (.54*2) **=1**
<u>Complete Development</u>	
Total Average Weekday Vehicle Trip Ends	**=900**
Total Trip Ends during morning peak hour of adjacent street traffic	**=56**
Trip Ends during evening peak hour of adjacent sttreet traffic	**=299**

Use: Residential (Single Family)	
Total No. of Dwelling Units: 69	
Average Weekday Vehicle Trip Ends	=10/unit (69*10) **=690**
Trip Ends during morning peak hour of adjacent street traffic	= 0.76/unit (69*.76) **=52**
Trip Ends during evening peak hour of adjacent street traffic	=1.00/unit =(69*1) **=69**
Saturday Vehicle Trip Ends	=10.1/unit (69*10.1) **=696**
Trip Ends during peak hour of generation on Saturday	=0.96 (69*.96) **=66**

Anderson Road:

Use:	Commercial	
Total Area:	87,500 sq. ft.	
Average Weekday Vehicle Trip Ends		=82/1000 s.f. (87.5*82) **=7175**
Trip Ends during morning peak hour of adjacent street traffic		=2.4/1000 s.f. (87.5*2.4) **=210**
Trip Ends during evening peak hour of adjacent street traffic		=7.8/1000 s.f. (87.5*7.8) **=683**
Saturday Vehicle Trip Ends		=107/1000 s.f. (87.5*107) **=9363**
Trip Ends during peak hour of generation on Saturday		=11.1/1000 s.f. (87.5*11.1) **=971**

Use:	Commercial	
Total Area:	156,000 sq. ft.	
Average Weekday Vehicle Trip Ends		=66.7/1000 s.f. (156*66.7) **=10405**
Trip Ends during morning peak hour of adjacent street traffic		=1.7/1000 s.f. (1.7*156) **=265**
Trip Ends during evening peak hour of adjacent street traffic		=5.9/1000 s.f. (5.9*156) **=926**
Saturday Vehicle Trip Ends		=112.4/1000 s.f. (112.4*156) **=17534**
Trip Ends during peak hour of generation on Saturday		=8.9/1000 s.f. (8.9*156) **=1388**

Use:	Residential (Single Family)	
Total No. of Dwelling Units:	5	
Average Weekday Vehicle Trip Ends		=10/unit (5*10) **=50**
Trip Ends during morning peak hour of adjacent street traffic		= 0.76/unit (5*.76) **=4**

Trip Ends during evening peak hour of adjacent street traffic	=1.00/unit =(5*1) **=5**
Saturday Vehicle Trip Ends	=10.1/unit (5*10.1) **=50.5**
Trip Ends during peak hour of generation on Saturday	=0.96/unit (5*.96) **=4.8**

FISCAL IMPACT OF DEVELOPMENT FOR THE TOWN OF WARE

Site:	SQ. Feet Area	SQ. Feet Structure	Acres:	Potential Uses:	Structure Coverage
Anderson Road (Anderson & Palmer)	871200	87500	20	Commercial	10%
		156100		Commercial	18%
		30000		Residential	3%
Gibbs Crossing (Near Palmer Town Line)	3484800	183000	80	Warehouse	5.25%
		2000		and Office	0.06%
		207000		Residential-existing	6%
167 West (Next to Post Office)	392040	80000	9	Residential-existing	20%
		39204		Commercial Office	10%

Land Value	Structure Value	Total Value	Total Taxes Paid to Town
$70,000	$3,675,000	$3,745,000	$40,221.30
$70,000	$6,556,200	$6,626,200	$71,165.39
$70,000	$1,350,000	$1,420,000	$15,250.80
	$5,124,000		
$280,000	$58,000	$5,462,000	$58,661.88
$280,000	$9,315,000	$9,595,000	$103,050.30
$31,500	$3,200,000	$3,231,500	$34,706.31
$31,500	$2,038,608	$2,070,108	$22,232.96

Anderson Road 10% Commercial Coverage

ESTIMATED REVENUE DUE TO COMMERCIAL DEVELOPMENT

Land Value	
Net developed acres	20
X Value/acre	3500
Value of land	$70,000.00
Building Value	
Square feet of Building	87,500
X Construction cost per square foot	$42.00
Value of Structures	$3,675,000.00
Total Market Value of Development	$3,745,000.00
X Assessment Ratio	100%
Actual Assessed Value	$3,745,000.00
X Tax Rate/1000	$10.74
Estimated Revenue	**$40,221.30**

SERVICE COSTS DUE TO COMMERCIAL DEVELOPMENT

Total Tax Levy	$4,701,521.85
x Service Percentage of Tax Levy	31.87%
Service Share of Tax Levy	$1,498,375.01
x Commercial and Industrial Percentage of all Land	0.34%
Service Costs due to Commerce and Industry	$5,094.48
divided by Commercial and Industrial Equalized Value	$53,646,250.00

Service Cost per Thousand of Equalized Value	9.50E-05
x Market Value of Development	$3,745,000.00
Service Cost due to Commerce and Industry due to Development	**$355.64**

Change in Tax Rate Resulting from Development (Impact on a Typical Home Owner)

Total Revenue from Commerce and Industry	$40,221.30
Total Costs Due to Commerce and Industry	$355.64
Total Revenue from Residential Development	
Total Costs Due to Residential Development	
NET FISCAL GAIN	**$39,865.66**
Total tax Levy	$4,701,521.85
divided by	
Tax Rate /Thousand	$10.74
Amount Affecting Tax Rate by One Dollar	$437,758.09
Net Fiscal Gain	$39,865.66
divided by	
Amount Affecting Tax Rate by One Dollar	$437,758.09
DECREASE IN TAX RATE	**$0.09**

Impact on Average Home Owner

Cost of Home	$112,000.00
Tax Rate per 1000 at present	$10.74
Annual Tax Payment Without Further Growth	$1,202.88
Cost of Home	$112,000.00
Tax Rate per 1000 due to new development	$10.65
Annual Tax Payment due to new development	$1,192.68
TAX BENEFIT DUE TO NEW DEVELOPMENT	**$10.20**